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Dept of Geography

ECONOMIC ZONING OF CANADA

UNIVERSITY OF TORONTO

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AND

THE D.D.P. GEOGRAPHIC CODE

GOVERNMENT OF CANADA
DEPARTMENT OF DEFENCE PRODUCTION
ECONOMICS AND STATISTICS BRANCH

(29)

ECONOMIC ZONING OF CANADA

AND

THE D.D.P. CANADIAN GEOGRAPHIC CODE

TABLE OF CONTENTS

	Page
PREFACE	i
INDEX MAP OF D.D.P. ECONOMIC ZONES	ii
SECTION I: ECONOMIC ZONES WITHIN THE PROVINCES OF CANADA	1.
A. What we mean by Economic Zones	2.
B. Work in other countries	5.
C. Main Developments in Canada	6.
D. Possible Future Lines of Development	9.
SECTION II: THE D.D.P. ECONOMIC ZONING SYSTEM	10.
A. Summary: The Problems of Area Analysis and the D.D.P. Approach	11.
B. Theoretical Aspects of Zoning	13.
C. Practical Aspects of Zoning	32.
D. General Description of Procedures in Establishing the D.D.P. Zoning System	39.
E. Analytical Descriptions of the Individual Zones	50.
SECTION III: THE D.D.P. CANADIAN GEOGRAPHIC CODE	(paginated separately)

UNIVERSITY OF TORONTO
DEPARTMENT GEOGRAPHY

Economics and Statistics Branch,
Department of Defence Production,
Ottawa.

PREFACE

This set of papers relates to the economic zoning of Canada.

Section I is the text of an address given by the undersigned at the Dominion-Provincial Conference on Economic Statistics held in Ottawa, January 26th/28th, 1953. This address dealt with the need for a zoning approach and with the underlying principles of zoning.

Section II consists of a paper prepared by Z. W. Sametz of this Branch. This paper is intended to supplement the January address by presenting the Department of Defence Production Economic Zoning System, its principles and its details, together with the associated D. D. P. Canadian Geographic Code. The zoning system and code represent an effort to increase the usefulness of statistical and other data for purposes of economic analysis.

Section III is the Department of Defence Production Canadian Geographic Code, developed by Z. W. Sametz for use by this Department.

The zoning scheme, which is referred to as the ' D.D.P. Geographic Code', has evolved over a number of years. It is believed to be a useful general system for other purposes as well as for those of the Department of Defence Production.

It should be clearly understood that this system is not meant to supplant any existing scheme of geographic presentation of economic statistics. Rather, it represents one meaningful framework within which economic data can be effectively organized and interpreted. It need scarcely be pointed out that this Branch harbours no illusions that it has discovered the final answer to the problem of delimiting "natural economic areas".

These papers are being circulated due to requests for them, and in order to get the comments of other groups interested in economic zoning. For example, suggestions would be welcomed from the Provincial Statisticians, who are in intimate touch with their respective local economies. And the views of marketing, transportation, and advertising agencies, - a good many of whom have made enquiries on the subject, - would also be gratefully received.

E. P. Weeks

OTTAWA,
18th August 1953

E. P. Weeks,
Director,
Economics & Statistics Branch.

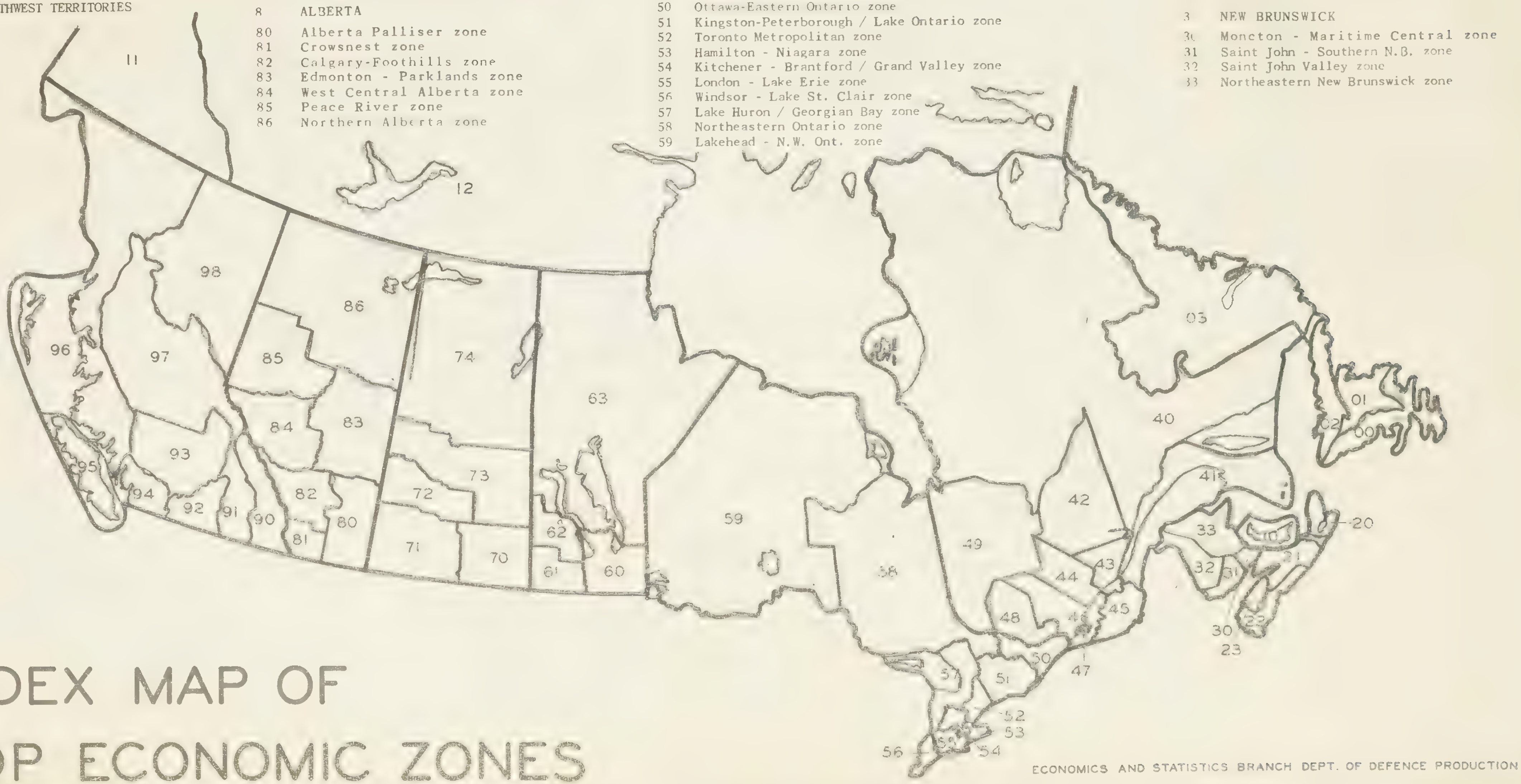
INDEX MAP OF
DDP ECONOMIC ZONES

9	BRITISH COLUMBIA
90	East Kootenay zone
91	West Kootenay zone
92	Okanagan zone
93	South Central B.C. zone
94	Vancouver - Lower Fraser zone
95	Victoria- Vancouver Island zone
96	Northwestern B.C. zone
97	Nechako Plateau zone
98	B.C. Tramontane zone
11	YUKON TERRITORY
12	NORTHWEST TERRITORIES

6	MANITOBA
60	Winnipeg-S.E. Manitoba zone
61	Manitoba S.W. Plains zone
62	Manitoba Parklands zone
63	Northern Manitoba zone
7	SASKATCHEWAN
70	Regina - Southeast Plains zone
71	Saskatchewan Palliser zone
72	Saskatoon-Central Plains zone
73	Saskatchewan Parklands zone
74	Northern Saskatchewan zone
8	ALBERTA
80	Alberta Palliser zone
81	Crowsnest zone
82	Calgary-Foothills zone
83	Edmonton - Parklands zone
84	West Central Alberta zone
85	Peace River zone
86	Northern Alberta zone

4	QUEBEC
40	North Shore / New Quebec zone
41	Gaspe Peninsula/South Shore zone
42	Saguenay Valley/Lake St. John zone
43	Quebec Metropolitan - Eastern Laurentians zone
44	Three-Rivers - St. Maurice zone
45	Sherbrooke-Eastern Townships zone
46	Montreal Plains / Laurentians zone
47	Montreal Metropolitan zone
48	Hull - Western Laurentians zone
49	Western Quebec zone
5	ONTARIO
50	Ottawa-Eastern Ontario zone
51	Kingston-Peterborough / Lake Ontario zone
52	Toronto Metropolitan zone
53	Hamilton - Niagara zone
54	Kitchener - Brantford / Grand Valley zone
55	London - Lake Erie zone
56	Windsor - Lake St. Clair zone
57	Lake Huron / Georgian Bay zone
58	Northeastern Ontario zone
59	Lakehead - N.W. Ont. zone

0	NEWFOUNDLAND
00	St. John's - S.E. Newfoundland zone
01	Central Newfoundland zone
02	Western Newfoundland zone
03	Labrador zone
10	PRINCE EDWARD ISLAND
2	NOVA SCOTIA
20	Sydney - Cape Breton Island zone
21	Northern Nova Scotia zone
22	Halifax - South Shore zone
23	Annapolis Valley zone
3	NEW BRUNSWICK
30	Moncton - Maritime Central zone
31	Saint John - Southern N.B. zone
32	Saint John Valley zone
33	Northeastern New Brunswick zone



ECONOMICS AND STATISTICS BRANCH DEPT. OF DEFENCE PRODUCTION

SECTION I

ECONOMIC ZONES WITHIN THE PROVINCES OF CANADA.

Outline

Introduction

A. What we mean by Economic Zones.

- i Theoretical Aspects
- ii Practical Limitations to Theory.
- iii General Criteria.

B. Work in other Countries.

- i U. S. A.
- ii United Kingdom
- iii Other Countries

C. Main developments in Canada.

- i Department of Social Research of McGill University
- ii Might Directories
- iii Dominion Bureau of Statistics
- iv Committee on Reconstruction and the Department of Reconstruction
- v Public Projects Branch of the Department of Reconstruction and Supply
- vi Area Studies Division, Economic Research Branch of Reconstruction and Supply
- vii Ontario
- viii British Columbia
- ix Quebec
- x Other Provinces
- xi National Employment Service Local Office Areas
- xii Economics & Statistics Branch of the Department of Defence Production

D. Possible Future Lines of Development

- i Zoning
- ii Analysis
- iii Data

ECONOMIC ZONES WITHIN THE PROVINCES OF CANADA (1)

Introduction

I want to thank the Dominion Statistician for giving me an opportunity to discuss this important subject at the present Conference. While I have not been directly involved in the details of economic zoning during the last few years, I have had an interest in the subject for a long time.

Following work on area studies in the Departments of Reconstruction and Supply, and Trade and Commerce from 1946 to 1948 in association with Messrs. D.M.McDonald, and Z.W.Sametz, - who are here to-day, - I turned to other fields of activity. However, in April 1951, when the Economics and Statistics Branch of the Department of Defence Production was established, I decided that it would be necessary to have research carried out on the zonal impact of defence production and strategic resources development. Accordingly, I approached Mr. Sametz, who was then in the Department of Fisheries, and he agreed to undertake this work.

Perhaps, before I start discussing economic zones, it would be well for me to clarify exactly what I mean by the term. When I refer to "zones", I am thinking of economic areas within the provinces which, in turn, form parts of the five main Canadian regions. As you know, in the zoning system now in use for the Province of Ontario, the economic areas I call "zones" are referred to as "regions". Confusion can be avoided if it is always borne in mind that "zones", in the present context are major sub-divisions within the Provinces.

This subject of economic zoning is a complex one and, at best, I can only give you a very broad picture of theoretical and practical developments. I shall, therefore, review the position broadly under the following headings :-

(A) What we mean by economic zones, and the criteria for zoning, in theory and in practice.

(B) A few comments on work done in other countries, - e.g. the United States, the United Kingdom, and Germany.

(C) A review of main developments in Canada, both by the Federal and Provincial Governments, and other agencies or individuals.

(D) Possible future lines of development.

Mr. Sametz is in a position to discuss the principles and details of his zoning of Canada, and has circulated an outline of the D.D.P. zoning system. I shall not, therefore, go into details on how specific zones are determined and their significance.

(A) What We Mean by Economic Zones

It is at once apparent that no one system of economic zoning would satisfactorily meet all requirements. For instance, the country has been divided into specific areas, according to various typologies of agricultural activities; soil; mining; forests; etc. In the present discussion, we are considering a system of general purpose zones designed to assist in the analysis of basic production and marketing factors, and hence the interpretation and forecasting of local economic conditions. Such zones, however, could be tied in with and supplemented by those intended for more specific purposes. Economic zones, provided that they are covered by adequate data, are of interest to governments, industry and trade, housing authorities, economists, sociologists, statisticians, and many others concerned with the structure and dynamics of the Canadian economy.

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(1) This paper was prepared for the Dominion-Provincial Conference on Economic Statistics, Ottawa, January 26/28,1953, by Dr. E.P.Weeks, Director, Economics & Statistics Branch, Department of Defence Production.

(i) Theoretical Aspects

August Losch, a German authority, has done a great deal to advance the general theory of economic areas. During the early 1940's he produced a standard work, "Raumwirtschaft", after years of investigation both in Europe and the United States. His zonal unit consisted of a marketing area surrounding a focal point of economic activity, the shape and extent of the area depending mostly upon transport conditions.

Vining, in the United States, has been an exponent of both actual zoning and of the interpretation of zonal data. Following the ideas of Schumpeter, he held that, in analyzing the effects of economic changes, the aggregative approach is not sufficient. It is the shifts within the aggregate that matter. "Aggregative analysis not only does not tell the whole tale, but necessarily obliterates the main point of the tale." The essence of the process of an economic system is that the individual elements of the aggregate are affected differently. He aimed to define an appropriate spatial unit which might be regarded as a fundamental economic organism and then to try to determine interrelationships. He regarded the zone as a cell in the economic body influencing areas outside and being influenced by them. He considered that in any hypothetical zone, there must be "carrier" or "primary" industries which depend upon outside markets and tend to determine the level of economic activity in the "passive" or "residentiary" industries. He regarded the zone or region as ".... the market area of the residentiary industry that naturally crystallizes around the locational core of primary industry ...."

Sargent Florence in Britain developed a "locational factor" to determine "carrier" and "passive" industries and the degree of their dependence on external factors. He assumes a closed economy and that consumption patterns be the same throughout the country. On such a basis, the location factor is the ratio of the percentage of regional employment in an industry to the percentage for the whole country. According to Florence, if the location factor is more than ONE, the industry is a "carrier"; and if less than ONE, it is "passive" because the zone is a net importer for the products of that industry. There are obviously great difficulties in the application of this theory particularly for a country like Canada with heavy dependence on foreign trade and regional differences in consumption patterns.

The economic geographers have, of course, long been interested in economic zones. Currie, for example, recognizes the need for the zonal approach because of the different reactions throughout the country to a given set of economic conditions. He sees, however, little agreement on the definition of a zone beyond the fact that such an area must have a certain degree of homogeneity. Putnam and others, in the recently published "CANADIAN REGIONS", have divided the country into various areas on the basis of geographical considerations. Unfortunately, the collaborators in this extensive work have adopted no given set of standards for a region, or zone. Furthermore, they have paid comparatively little attention to the functional aspects and to the availability of useful economic data.

Numerous others in many countries of the world have been devoting time and effort over a long period of years to the problem of defining and interpreting economic zones. I have merely mentioned a few for purposes of illustration.

(ii) Practical Limitations to Theory

The chief limiting factor on all theoretical approaches is clearly the availability of relevant data. This factor applies both to the determination of the zone in the first place, and to the basis thereafter for useful analysis. In Canada, at the present time, most of the relevant data are available only for counties, census districts, and various urban areas. It follows that economic zoning, to be useful, must be governed accordingly. In the light of these limitations, let us consider for a moment the practical weaknesses in the application of the theories I have already mentioned.

Losch's zones would not be easy to define, nor would it always be simple to determine the proper dominant focal points. Data would not be readily at hand according to this criterion, and the number of zones would tend to be too large. The same difficulty applies to Vining's market areas around the core of carrier industries. The carrier index is a useful concept but it needs a lot of development in the light of Canadian realities - notably as regards data, and the corrections due to large dependence of the economy on foreign trade. The zoning of the economic geographers also suffers from not fitting in with the existing bases of economic data. In addition, it would seem that insufficient attention has been devoted to the determinants of economic activity which they tend to confine to those of a geographical nature. They also often overlook the dynamics of zonal interrelationships. Mere geographical similarity or proximity does not necessarily mean identity of economic interest.

(iii) General Criteria

The first condition for all economic zoning must be utility. The zone must be useful as a basis for estimating the impact of changing economic conditions (both domestic and foreign factors); for interpreting economic conditions; for dealing with current problems; and so forth. Essential data must be readily available on whatever zone is defined, i.e., the zones must at present largely follow county and census division boundaries. In the delineation of zones, allowance must be made for political boundaries, and administrative and socio-historical realities. The breakdown should not be too fine, but rather the largest area for which useful generalizations can be made. The zones should be such as can be grouped readily if certain problems require it, e.g. in examining the impact of developments within a specific industry.

Within the above limitations, the zone should represent a community of economic interest, particularly as regards dynamic types of production, market relationships, and labour supply and demand. There should be sufficient similarity of structure to permit reasonable forecasting.

In short, the zone should represent the best possible combination of structural and functional, production and marketing factors, allowing for the availability of statistics.

(B) WORK IN OTHER COUNTRIES

(i) United States

Federal, State, and local governments in the United States, as well as such private groups as commercial agencies and universities, have long been interested in regional economic zoning and in the interpretation of regional data. For example, the National Resources Committee, (later, the National Resources Planning Board), which went out of existence in 1943, was in the forefront of this work and published such basic documents on the American economy as "The Structure of the American Economy", June 1939, and "Regional Factors in National Planning". From 1938 the Board maintained nine regional offices and each of these offices undertook a program of economic study within its region. It is interesting to note that the latter publication contains a series of no fewer than 108 maps showing different types of regional zoning for specific purposes. This suggests one of the problems which arises in any effort to prepare a system of zoning agreeable to the great majority of agencies concerned.

The United States Department of Commerce, through its various Divisions and Bureaus, has provided many analyses on both a broad regional and zonal basis. On the compilation side, a particularly interesting publication is "State Economic Areas" published in 1951. This publication not only provides a compilation of data on what they call State Economic Areas - defined as single communities or groups of communities ".... which have similar economic and social interests ...." - but the publication also indicates why the particular breakdown was adopted and how it was done. (The basic principles used in establishing the State economic areas were carefully examined in connection with work undertaken on the Canadian economy by the Economics and Statistics Branch of the Department of Defence Production). A number of bulletins have also been issued dealing with economic development in specific areas.

Among the private organizations, the Committee for Economic Development has given considerable attention to the outlook for industrial development and markets in various sectors of the country. I noticed in the January 24, 1953 copy of BUSINESS WEEK that the Committee for Economic Development has been fostering local area studies in California in collaboration with university and business groups. The studies are designed to provide some measure of the impact of defence production on the areas concerned and the types of problems likely to arise when the requirements of defence show a major decline. The increasing interest of businessmen in regional analysis is illustrated by the BUSINESS WEEK series of reports on "The New American Market". For this purpose, the country is divided into the 12 Federal Reserve District regions, and conditions and prospects in each are surveyed periodically. There is no time here to refer to the numerous studies made by the State of California, or by various private individuals in other localities in the United States, but it is perhaps sufficient to say that much can be gained by an examination of United States methods and experience.

(ii) United Kingdom

As you all know, the United Kingdom Board of Trade was responsible for a series of studies in the 1930's covering the "depressed areas",later referred to as"development areas". These examined in detail the position and prospects for the major industries, and the relationship between these areas and other parts of the country, and to foreign markets and sources of supply. An interesting example was the "Industrial Survey of the Lancashire Areas" in 1932.

The Land Utilization Survey under the direction of Sir Dudley Stamp,together with various reports like that of the Barlow Commission, have provided much of the basic information for the activities of the Ministry of Town and Country Planning.

I have already referred to the fact that Sargent Florence has been interested in dynamic factor in local areas. I might also mention, among other publications, that of the Political and Economic Planning group's report on "The Location of Industry" published in March 1939.

(iii) Other Countries

In Western Europe, the Germans from Weber(1) to Losch(2) devoted a great deal of thought and energy to both the theory and practical implications of economic regions or zones. I have already referred to Losch's concept of zones.

Considerable work was done in Italy, particularly in the North, and also in some of the Balkan countries. Before the war, the Institute of International Affairs in Rome was interested in promoting the study of agricultural regions in various parts of Europe. In France, too, important zoning work has been done by economic geographers.

I have commented on a few of these developments abroad merely to indicate that, in both theory and application, economic zoning has been a subject of major concern in many parts of the world for many years.

(C) MAIN DEVELOPMENTS IN CANADA

(i) The Department of Social Research of McGill University carried on extensive investigations of local and area problems during the 1930's. Activities included the zoning of Ontario and Quebec in terms of agricultural and industrial markets. It was one of the purposes of this zoning to provide a basis for analyzing employment and unemployment levels and trends. This work was useful in connection with later zoning carried out by the Departments of Reconstruction and Supply, and Trade and Commerce.

(ii) A. R. Lawrence made an interesting compilation on the distribution of Canadian income based on the 1931 census, for Might Directories. He relied heavily on assistance provided by the Dominion Bureau of Statistics and various Provincial officials and industrial experts. I understand that various concepts adopted in this publication were seriously open to question. However, Major Lawrence's effort does indicate something of the attention which the business community was already devoting to the development of data on a finer area basis, i.e. more comprehensive than that merely for major cities, yet more detailed than that merely for provinces.

(iii) The Dominion Bureau of Statistics has long been developing the presentation of data covering more and more detailed areas of the country, although not on the basis of economic zones. For instance, during the 1930's the Bureau collaborated closely with the McGill researchers on the provision of data on metropolitan areas and major centres. A very important contribution to a more detailed knowledge of the economy was the publication of "Consumer Market Data" with information from the 1931 and 1941 censuses. This publication was designed to bring together relevant facts pertaining to income levels and buying power by provinces, counties, and principal cities. It was intended mainly for the use of people in the marketing field but also for other economic and sociological purposes. I understand that an even more comprehensive work based on the 1951 census will appear within the next five or six months.

(iv) The Committee on Reconstruction devoted attention during the war to the problems of readjustment likely to be faced at the end of hostilities. Dr. Leonard Marsh and Mr. Frank Leacy started to develop the "danger areas" approach. A list was drawn up covering centres or groups of centres comprising a labour market, where readjustment difficulties were likely to develop for the labour force as direct war employment fell off.

This work was taken over by the Economic Research Branch of the Department of Reconstruction in December 1944, and developed further by Dr. W.A.MacIntosh, M.C.Urquhart, Dr. O.J.Firestone and Miss M. Tucker. In the late summer of 1946, as longer term problems became more important, some centres were dropped, others added, and various consolidations made, so that coverage was provided for all centres of 10,000 population, together with a few smaller "danger areas". This approach suffered, of course, from the weakness that it was designed for only one specific purpose; areas outside the urban centres were not covered and the system had only limited value for general analyses.

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(1) Weber, Alfred;-Theory of the Location of Industries, in Translation, Univ. of Chicago, 1929.

(2) Losch, August;-Die Raumliche Ordnung der Wirtschaft:Eine untersuchung uber Standort,Wirtschaftgebiete und internationalen Handel. (Published by Fischer, 1940 : 348 pages)Reviewed by W.F.Stolper, Swarthmore College,"American Economic Review"vol.xxxiii 1943 pp.626-636

(v) The Public Projects Branch of the Department of Reconstruction and Supply about the same time developed the "Commuting Areas" approach. Maps were prepared showing commuting areas of sixty-five cities and towns with populations of 10,000 and over as well as for several smaller cities. The aim was to determine the possible local employment effects of public projects, the area directly affected by on-site employment, and the area that would benefit from the completed work. The areas were defined with the assistance of Regional Reconstruction Councils in consultation with local civic officials and were designed to show business commuting areas and special public project commuting areas. The former covered the area where people commute daily, and the latter where people would commute to a construction project if transportation were available. Allowance had to be made for distance, time and also the habits of construction workers and companies. This plan, like that for "danger areas" suffered from the fact that it was intended to deal with a specific problem. It represented an advance on the "danger area" idea but it meant only a certain enlargement.

(vi) The Area Studies Division, Economic Research Branch of the Department of Reconstruction and Supply (later transferred to the Economic Research and Development Branch of the Department of Trade and Commerce), was set up in the Fall of 1946. I returned from England in the summer of 1946 and was asked to head this Division, with D.M.McDonald and Z.W.Sametz as my chief colleagues.

The Federal Government had committed itself in the White Paper of 1945 to a policy of maintaining high employment levels. It was recognized that the aggregative approach was not enough in view of the vast differences between, and within, Canadian regions, and of the unique dependence of the country on foreign trade. It was seen that high levels of activity for the country as a whole could be accompanied by serious unemployment in certain areas. It was the task of the Division to develop analyses based on long-term issues rather than on the "danger area" approach. Consideration was to be given to country-wide zoning, since urban centres do not allow for the great importance of most primary industries nor provide an organic picture of the economy.

The zoning of Canada carried out by the Area Studies Division took the following form. We started with the five main regions of the country generally accepted. Within the regions, we felt it was necessary to break out the provinces for obvious practical reasons. Within the provinces, sub-regions were delineated, e.g., Northern Ontario, Eastern Ontario, and Southern Ontario. Within the sub-regions were the zones, These zones, where possible, were focused on metropolitan areas, which, of course, were sometimes zones in themselves. In certain instances it was found desirable to provide for sub-zones. Altogether ninety-eight zones were established for the whole country.

In establishing these zones, it was the aim of the Area Studies Division to arrive at the most effective compilation of factors essential for analysis, including production and industrial patterns, market relationships, and general economic determinants, such as extent of resources, seasonability, cyclical stability, and secular trends.

As a first approximation, data were collected by zones covering population growth and movements, occupations, farm income, and employment in manufacturing industries. Detailed studies were prepared on the individual provinces with emphasis on structure and dynamics and some comments on specific zones. Annual forecasts were also made on the position and outlook of the main regions and checked with various government and business people in various parts of the country. However, it was recognized that much more investigation would be necessary before serious zone analysis could be undertaken.

While the work of the Area Studies Division represented a considerable advance on previous attempts, it was apparent that the delineation of the zones required refinement and furthermore, that much remained to be done on the question of secondary effects and interzonal relationships.

(vii) The Ontario Statistician, Mr. H.J.Chater, approached the Area Studies Division and the Dominion Bureau of Statistics in the spring of 1947 and requested co-operation in breaking Ontario into feasible economic zones. Mr. Chater, like ourselves, desired to obtain data on meaningful areas for purposes of forecasting, interpreting economic conditions, and dealing with current problems. In addition, Ontario officials wished to have a basis for encouraging the proper distribution of new industrial developments.

In view of the broad objectives, it was desirable that the zones should, as far as possible, cover areas whose economic behaviour was determined by a basic industry or by groups of industries responding to the same general conditions. Statistical and administrative factors dictated that the zones should follow county lines as a general principle. The following data were collected where feasible on a county basis and transferred to working maps :

1. Value of production of individual industries grouped according to material content and end use :
2. Classification of the population as urban, rural, and rural non-farm :
3. Breakdown of the gainfully occupied according to major industrial groups :
4. Types of agricultural production, involving the use of the Department of Agriculture master map and legend :
5. Lines of communication, including rail, road, water and air routes :
6. Commuting areas and public project areas :
7. Market areas based on the general knowledge in lieu of detailed information on trade channels.

A meeting was held at the Dominion Bureau of Statistics on June 18th, 1947, with Mr. Chater and associates, Bureau officials, and D.M.McDonald, Z.W.Sametz and myself, at which a first approximation was made on a system of zoning. Later, an exchange of correspondence completed the picture. Mr. Dana Porter, Minister of Planning and Development, officially adopted the zoning system at the end of September 1947. As a further step, a joint Dominion/Ontario Committee was set up.

I am sure that everyone here is familiar with the "Annual Economic Survey" for the Province of Ontario and the monthly bulletins "Economic Review of Ontario", including data specifically compiled for the Province by the Dominion Bureau of Statistics.

(viii) In British Columbia, at about the same time, Mr. J.T.Gawthrop, now Director of the Regional Development Division, Department of Trade and Industry, was investigating zoning as a means of assisting those interested in commercial and industrial development. He zoned the Province by what he called regions, areas, and centres, and provided data on resources, industrial facilities, location factors, general economic questions and social amenities. As you know, his Division issues annually a very detailed publication called "Regional Industrial Index".

(ix) In the Province of Quebec, economists and economic geographers have long been devoting attention to zonal questions. Professor Lamontagne of Laval University was appointed adviser to the Area Studies Division of Reconstruction and Supply in 1946 and he carried out various zoning studies for the Province. Professor Brouillette of the Ecole des Hautes Etudes Commerciales of the University of Montreal has, on behalf of the Provincial Department of Mines and Forests, zoned the Province into what he calls "natural regions".

(x) In other provinces considerable thought has been given to economic zoning but I am not aware that the work has been developed to the same extent as in the Provinces I have already mentioned.

(xi) The National Employment Service was organized to cover labor market areas, and has set up Local Office Areas for administrative purposes. There are 187 of these at the present, though the number is increased as new requirements arise. The basic standard for determining the areas was the existence of transportation facilities and the access of labour to them. Statistics are published in the Labour Gazette.

The use of Local Office Areas for general analysis is clearly limited by the fact that it is not easy to tie in local office data with the Dominion Bureau of Statistics information compiled on a county basis.

Furthermore, there are too many of these areas for general analytical purposes, and, at times, these areas lack any broad economic significance. A further difficulty arises from the fact that changes are often made both in the numbers and boundaries of the local office areas.

(xii) When the Economics and Statistics Branch of the Department of Defence Production was set up in April 1951, I decided that the zonal approach should be developed to assist in determining the impact of defence procurement and strategic resources development on different parts of the country. Mr. Sametz proceeded to revise the zoning system to which I have already referred. In doing this, he has studied previous work on the subject and has re-examined the principles of zoning. In addition, he has developed close working arrangements with the economic geographers and indeed, one of them - Mr. James Davy - was employed in the Branch during the Summer of 1952. Allowance had to be made, of course, for the specific requirements of the Department of Defence Production.

It was Mr. Sametz' view that there were three considerations of major importance. In the first place, it was necessary to obtain data on contracts going to specific centres and this called for something like the "danger areas" approach to zoning. But, in addition, secondary effects had to be dealt with, particularly involving defence-supporting industries which were generally outside defence contract areas. This required a zonal analysis like that of the Area Studies Division. Finally, the value of a current picture of the impact of defence in terms of labour focused attention on the significance of the "Local Office Areas" concept of the National Employment Service. It is apparent, therefore, that a new synthesis of previous efforts was needed. All important localities had to be listed according to the standardized local office sub-zones in which they fell. The local office sub-zones in turn were combined into zones on the basis of many factors such as common production patterns or functionally interrelated production capacity. This latter approach assists greatly in delimiting the impacts of defence production.

Mr. Sametz is providing interested Statisticians with a detailed statement of the way in which he arrived at his present zoning system and with the list of zones as he now envisages them.

(D) POSSIBLE FUTURE LINES OF DEVELOPMENT

(i) Zoning

It would be desirable to get general agreement on zones for the country as a whole, so that Federal and Provincial Statistics, and other data and that of other groups like economic geographers can be provided on a common basis. This will have to be done very carefully. There would have to be a thorough testing of preliminary zonal systems on the basis of all available information and revisions made accordingly - perhaps a re-grouping of counties in some cases, and in other cases, a finer breakdown where county and census district units are too crude.

Economic geographers are taking a great interest in zoning and there is the possibility of discussions taking place in London, Ontario, in May of this year, at the time of the meeting of the Political Science Association. Perhaps the economists, statisticians, and economic geographers might get together then in a joint session on zoning.

(ii) Analysis

It is desirable to advance beyond the collection and presentation of data to an analysis of the dynamic factors in the zones and the nature of inter-zonal relationships. An attempt must be made todetermine the importance of the "carrier" industries in the zones by correlating their performance with that of the rest of the zone. It is possible that Provincial Statisticians might find it valuable to develop economic barometers for different zones.

In connection with in-put/out-put analysis contemplated, the zonal aspect might be borne in mind as a long-term proposition. Meanwhile, experiments might be made on simple and important zones to assist in the development of technique.

(iii) Data

All the data now published on the county basis lend themselves to publication by zonal order rather than by alphabetical listing and the zonal order could be adopted easily for such publications. The Department of Defence Production is particularly interested in such employment and output series in order to provide a universe against which to measure the impact of defence output and employment.

Mr.Sametz' document on the D.D.P.Zoning System is available to those interested.

SECTION II

THE D.D.P. ECONOMIC ZONING SYSTEM

A. SUMMARY : THE PROBLEMS OF AREA ANALYSIS AND THE D.D.P. APPROACH

1. The Problems of Area Analysis
2. The D.D.P. Zoning System as an Approach

B. THE THEORETICAL ASPECTS OF ZONING

3. The Use of a Theoretical Framework
4. The Need for a Regional Approach in Economics
5. The Existing Base of Regional Economic Theory
6. Can Economic Areas be Delimited?
7. The Theory of Zoning
8. The Problem of Definitions
9. The Methodological Approach
    - (a) The Methodological Problem
    - (b) Essentials for a Zoning System
    - (c) Basic Principles Utilized
    - (d) Supplementary Theoretical Concepts
    - (e) Continuing Methodological Problems
10. Uses of Zoning in Economic Analysis

C. THE PRACTICAL ASPECTS OF ZONING

11. The Practical Need for Zoning
12. Adaptation to Reality
13. Operating Principles in Setting up a Zonal Coding System

D. GENERAL DESCRIPTION OF PROCEDURES IN ESTABLISHING THE D.D.P. ZONING SYSTEM

14. Reconciliation of Six Approaches
    - (a) Political and Statistical Units
    - (b) N.E.S. Local Office Units
    - (c) Production units
    - (d) Marketing units
    - (e) "Geographic" units
    - (f) Economic Units
15. Principles of Compromise
16. Census Units as Basic Statistical Units
17. "Standardization" of Local Office Units
18. Structural - Functional Principles of Sub-Zoning.
19. Production - Marketing Principles in Sub-Zoning
20. Principles of the Zoning Procedure
21. Coding Order
22. Classification of Sub-zones by Population Density Configuration

E. ANALYTICAL DESCRIPTION OF THE INDIVIDUAL ZONES

23. Brief Description of Each of the Sixty Zones According to the SFPM (Structural-Functional, Production-Marketing) Formula.

A. SUMMARY : THE PROBLEMS OF AREA ANALYSIS AND THE D.D.P. APPROACH

1. The Problems of Area Analysis

The interest in, and usefulness of, regional and area economic analysis is too well established to require any extensive comments. It is of practical value to all who are concerned with the specific economic problems of a given area, such as most business-men, and Governments, particularly at the local and provincial levels. From the purely analytical side it is desirable for many purposes to study area units smaller than the province, because of the large size and heterogeneity of most of the Canadian provincial units.

However, in attempting to utilize economic data on an area basis, four major problems are encountered :-

(i) Data : First is the problem of obtaining economic data on the area basis. Zoning schemes of various sorts may be devised but they are useless if data cannot be obtained on a continuing basis for the areas created.

(ii) Quantity : Next is the sheer physical problem of handling data for thousands of separate localities. Given a proper approach, suitable coding, and mechanical or semi-mechanical techniques, this physical obstacle can be overcome.

(iii) Systematic Aggregation : Even if physical handling is effective, the data can still be analytically unmanageable, and therefore the third problem is the necessity for systematic listings based on a suitable conceptual framework to permit meaningful aggregation at any desired level.

(iv) Theoretical Framework : The fourth and corollary problem is the search for relationships which will provide the conceptual framework to which the data can be related in a series of valid and useful generalizations.

2. The D.D.P. Zoning System as an Approach

In essence, the D.D.P. zoning system involves four orders of aggregation in the form of a four-digit code. It is an attempt to create two meaningful levels of aggregation intermediate between the locality or 1st level and the provincial or 4th level, namely the sub-zone or 2nd level, and the zone or 3rd level. The sub-zone is an aggregation of adjacent localities which form a functionally and structurally related unit generally within the immediate environs of a dominating urban centre. The zone is an aggregation of contiguous sub-zones which are structurally similar and, at the same time, comprise a convenient and meaningful sub-division of the province.

The thousands of localities are classified : the significant ones are given a separate locality code and the remainder are grouped into a "rest of" code. In turn, these 2500 "code localities" are grouped into 238 sub-zones, and then further aggregated into 60 zones. The 60 zones are useful for a summary analysis of the regional economies and in most cases are a more meaningful basis of analysis than the 12 provincial and territorial units. The 238 sub-zones are of use where localized data are required for more specific marketing research, employment and unemployment analysis, and other purposes.

The D.D.P. zoning system attempts to overcome the four basic problems of area analysis outlined above in the following ways :

(i) Data : Because one of the primary determinants of the D.D.P. system is that economic statistics be available on this basis, the basic statistical unit used is the D.B.S. census unit (county, territorial district or census district). The main principle underlying our zoning procedures was to try to obtain equations or approximate conjunctions of economic units with congeries of statistical units. The basic functional unit or sub-zone, a fairly pure version of an economic area, may consist of a defined portion of a statistical unit, may equal a statistical unit or may consist of an aggregation of more than one statistical unit. But because statistics are either not always available on the sub-zone basis, or are difficult to handle in this volume especially for various theoretical purposes, the zonal concept is introduced as an integrating principle and the zonal unit must constitute a legitimate equation of economic sub-zones and statistical units. Incidentally, the zone also represents an integration of geographic sub-zones or "regions" which have been derived on the basis of physiographic and other criteria as opposed to our economic sub-zones set up on a functional basis.

(ii) Quantity : The problem of handling area data has been simplified by the very nature of the coding scheme, which was set up with a relatively easy four-digit code which permits significant localities to be identified separately, with less significant localities being extracted by residual hand-sorting if and when necessary. The code is adapted to both fully mechanized operations of the I.B.M. variety or to semi-mechanical operations of the Keysort or Kwiksort card variety.

(iii) Systematic Aggregation : The code also permits systematic listings in line with the conceptual framework instead of by the usual arbitrary listing methods such as the alphabetical sequence. The four levels of aggregation can be obtained simply by using the appropriate number of digits. Thus, a locality listing can be obtained by using all four digits, the sub-zone aggregation can be obtained by using only the first three digits, the zonal aggregation by sorting only on the first two digits, and the provincial aggregation by using only the first digit (except in the case of the cypher 1 where a further sort is required on the second digit).

(iv) Theoretical Framework : However, if it were merely a question of proper identification and some means of aggregation, other code systems could be and have been set up to do the above three tasks and could possibly do them better if the only consideration was sheer statistical presentation. The main and over-riding justification for the D.D.P. system is that it tries to introduce economic meaning into the process. Since it is our belief that statistics to be useful must have meaning, and that they can only acquire this meaning by their relationship to other factors, then it follows that these other factors (and particularly certain basic ones) must be brought into the picture to provide the framework of general analysis. These basic factors have been studied and considered over a period of time, and the D.D.P. system is based on what we have termed the "SFPM" formula. Other formulas could be devised to suit other requirements, but this formula was considered most suitable for general analysis because it comprises basic Structural factors such as the physiographic basis and the population structure; Functional factors such as the transportation and communication network and the flow of servicing functions; Production factors both in respect to their homogeneity and their relationship to each other; and the Marketing pattern. This formula is considered suitable for general theoretical area analysis such as area income and expenditure studies due to the provision for both production and marketing factors, and area input-output analysis due to the attention paid to industrial relationships. It is also considered suitable for various practical requirements such as marketing analysis. It has already been particularly useful for studying the regional and area distribution of net plant loading under the Defence Production program, and many other uses are envisaged for this scheme. We have become convinced that the setting up of such a system has not only immediate practical advantages, but that it is a necessary step to further regional economic research in which many agencies and persons are vitally interested.

B. THE THEORETICAL ASPECTS OF ZONING

3. The Use of a Theoretical Framework

Although the D.D.P. zoning scheme and code was established with definite requirements in mind, in essence it is an attempt to create a coding system that is not merely useful for classifying localities so that they would not get "lost", but is actually essential for classifying areas so that they would be "found" from the viewpoint of economic analysis. While much of this paper is concerned with the operational procedures involved in setting up the system and a general description of the units created, it is necessary first to discuss the theoretical principles of zoning which were adapted or developed and kept in mind throughout the actual setting up of the system.

The effort involved both the deductive and the inductive approaches, with constant interplay between empirical and theoretical positions, in order to avoid over-simplifying assumptions and yet not merely to be left with a mass of ungeneralized impressions.

The theoretical framework of area analysis is based on the general position of regional economic theory, on the state of development of regional methodology, and on the possibility of assessing the impact of special factors (such as defence production, export flows, etc.).

Paras. 5 and 6 contain extensive quotations from, or condensed interpretations of, works by authorities in the field of regional theory, with comments on the relevance of these theoretical steps to the problem of zoning. This was done to assist those interested in area analysis who may not be familiar with the sources, and also because it helped to advance the theoretical argument.

4. The Need for a Regional Approach in Economics

The usefulness of regional economics is fairly generally understood, being of value to all who are concerned with the economic problems of specific areas. A composite picture for the country as a whole is useful to everyone as a general orientation, but particular interest is restricted to a very few agencies within the Federal Government and to those business men with wide-spread national markets (although even in this latter case, the condition of individual regional markets is also of direct interest).

And yet we find that most economic literature is concentrated on national economics, with side ventures into international economics and occasional specialization in industrial economics. The literature bearing directly on what has been termed "intranational" economics, is quite limited. Even in international trade theory which has been particularly concerned with geographical flows, the space factor has been, by and large, ignored or set aside. It seems that dealing with the space factor is a task as difficult as introducing the time factor - it adds an extra dimension to the analytical process. This neglect seems to be the result of several considerations such as : the ivory tower tradition of the general overall view; the cost of detailed studies due to the volume of data required and to the fact that much of the data available for the nation as a whole is not available on a regional basis; and the notion that anti-cyclical economic policy to be effective must be nation-wide and hence only those economic phenomena pertaining to the national economy as a whole are worthy of attention. These methodological considerations account for the concentration by economists on aggregative series such as Gross National Product, and in turn, for the attacks on this concentration on global aggregates from both the business and academic worlds. There is of course a need for a proper appraisal of "global" series - they are very handy tools and must be watched - but they cannot be used to provide answers for every type of question. The realization of this need has led to the development of new approaches such as input-output analysis, and its initiator has made the following comment which is relevant to the area approach as well.

"Hand in hand with the nearly exclusive reliance on global aggregates such as G.N.P., 'total consumption' etc., one notices the widespread use of various methods of indirect statistical inference exemplified by multiple regression (correlation) techniques applied to economic time series. It is easy to understand why aggregation and correlation go together. Direct observation can have only very limited use in discovery and explanation of quantitative inter-dependence of highly aggregative quantities. The very process of aggregation obscures the sharp outlines of the underlying structural relationships to such an extent that one is naturally forced to give up the simpler methods of direct induction and take recourse to 'blind flying' by the complicated but hardly foolproof instruments of indirect statistical inference."(1)

Apart from the methodological question of the over-simplifying assumptions used in global models, the objectives of precise preventative and corrective economic policies require an understanding of all influences, whether local or national, that may be destabilizing the economic structure and all aspects of the dynamic process including inter-regional transmission. As in the case of input-output analysis, the regional approach should make it "possible to conduct the empirical analysis of the national economy as a whole in terms of the peculiar structural character of its many individual parts, thus combining the virtues of general equilibrium analysis with the obvious but all too neglected advantages of direct detailed observation".(2)

If the study of areas is to be more than a contribution to local business economics, by becoming as well an essential adjunct to the study of the national economy, the causal relations between area and national developments must be established within a proper spacial frameof reference. It is our hypothesis that area analysis can be useful not only for various practical requirements such as marketing analysis, but that it can also help in creating an understanding of general economic problems. For example, inter-area relations and the consequent transmission of destabilizing influences as cyclical impluses is one of the aspects of the cyclical process which it is necessary to study as a prerequisite to optimum corrective and compensatory policy.

5. The Existing Base of Regional Economic Theory

There has been a great mass of literature written on topics associated with regionalism such as the geographic distribution of various factors, regional development, social ecology, etc., but the construction of a general spacial theory has remained a stimulating challenge, tackled by very few. "Despite the productive efforts of (Alfred) Weber, Englander, Predohl, Ohlin, Palander, Hoover, Losch and others, the goal of spinning a theoretical web and specifying the design of a corresponding operational model are still remote."(3) Although nearly all of the work done by the relatively few regional theorists has had an impact on our theoretical frame of reference, only that work with the most direct bearing on the problem of the nature and delimitation of economic regions and areas will be discussed extensively, this latter group including Alfred Weber, August Losch, Rutledge Vining, Walter Isard and Donald J. Bogue and the United States Bureau of the Census. However, it is necessary at least to mention the less direct but nevertheless interesting contributions of several recent regional theorists who are on the periphery of the main problem discussed here. No mention will be made of economic theorists who have touched on the problem but whose contribution was relatively small or was superseded.

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(1) W. Leontief - "Recent Developments in the Study of Inter-Industrial Relationships" - American Economic Review, Papers and Proceedings, December 1948, published May 1949, p. 218.

(2) Ibid.

(3) Walter Isard - "Inter-Regional and Regional Input-Output Analysis, A Model of a Space Economy", Review of Economics and Statistics, November 1951, p. 318.

(i) P. Sargent Florence has made many valuable contributions to spacial theory. In his work for the U.S.National Resources Planning Board, he developed regional indices of specialization. His combination of theoretical analysis and practical requirements is illustrated by the article, "The Selection of Industries Suitable for Dispersion into Rural Areas".(1)

In his work "Investment, Location and Size of Plant" (Cambridge 1948), he devotes a section to 'Location and Size of Plant' and develops and tests the hypothesis that there is an important relationship between the size of an industrial plant and its location pattern. The main interest was to establish a correlation between localization and size of plants, and to interpret the data for industries which were highly localized or not highly localized (an example of his findings was that medium-sized plants prevail in localized industries). A contribution to the general approach was made by his defining industrial localization as the concentration of one industry compared with the distribution of industries as a whole, and to measure this, he devised a coefficient of localization based on regions to indicate the degrees of such localization for all industries distinguished by the British and American census.

(ii) Frank L. Kidner in his work "California Business Cycles",(2) does not touch our principal problem insofar as his region of interest is pre-determined as the entire state of California. However, he extended the empirical approach of Wesley C. Mitchell, Arthur F. Burns and the National Bureau of Economic Research on business cycle analysis onto a regional basis by enquiring into the cyclical stability of the California economy as compared with that of the United States as a whole during the period 1919-1939, and his emphasis on empirical regional research and on structural change are relevant.

The California State Reconstruction and Reemployment Commission did much useful work along similar "regional" lines.

(iii) Like Kidner, Philip Neff(3) also has studied business cycle fluctuations in selected areas, but more from the empirical viewpoint of explaining business cycle phenomena by establishing the usefulness of a narrow spacial reference for cycles. Neff's thesis is that the business cycle developed as expanding trade permitted a considerable measure of functional and geographic specialization. "Due to the coincident development of cycles and of large urban masses, it may well be that impulses originating in specific areas and transmitted to other parts of the nation sometimes constitute the causes of cycles." Furthermore, "consistent divergencies among areas in cyclical pattern may prove to stem from structural peculiarities of the areas involved, which may contribute to a fuller understanding of the cyclical process". The loss of detail in the national income approach and in general cyclical analysis may be unimportant for some purposes, but on the other hand, the recovery of this detail may be essential to the creation of a realistic cyclical theory. Neff's investigations are therefore meant to discover whether there are consistent inter-area differentials - if these are great, then the loss of area detail is likely to be significant, for the causes of these divergencies may be an essential element in the cyclical process. Even if the area cyclical patterns are revealed not to be strategic factors, if they are at least consistent, they may be meaningful from the viewpoint of sounder public and private policies. His conclusions to date are quite significant, namely that "the treatment of cycles on a national basis provides no means of studying the causation behind these differences".

Although Neff has done much to point to the necessity of the area approach, of particular importance to us at the moment is his choice of areas to be studied. His general injunction, that these should be dependent upon the theories to be tested, caused him to select major industrial areas of differing structures to test, for example, whether areas dependent upon capital goods industries reacted differently than those with a greater predominance of consumer goods production. However, he has not contributed much to the delimitation of such areas for he selected city units as defined by the census for which statistics were readily available.

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(1) Journal of the Royal Statistical Society, 1944, pp. 93 - 107

(2) University of California Press, 1946.

(3) Philip Neff - "Inter-Regional Cyclical Differentials, Causes, Measurement and significance", - American Economic Review, 1948 pp. 105 - 119; - and with Annette Weifenbach - "Business Cycles in Selected Industrial Areas", University of California Press, 1949.

(iv) Howard W. Odum of the University of North Carolina has done much pioneering work on the delimitation of the U.S.A. into broad regional categories. He classified the States on the basis of about 700 economic and social factors and then grouped them into 6 regions on the basis of relative homogeneity: the North East, the South East, the South West, the Central, the North West and the Far West regions. This work started as a result of his interest in the South, and resulted in works such as "southern Regions of the U.S.A." and, with H.E. Moore, "American Regionalism."

Odum's scheme has been used widely, particularly by the U.S. Department of Commerce which, however, has modified Odum's classification by dividing his North East region into the traditional New England Region and the Middle East or Middle Atlantic Region.

On the basis of this work, Charles F. Schwartz has made the following statement in "Regional Trends in Income Payments", Survey of Current Business, September 1948, page 10. "The seven-region classification of States used by the Department of Commerce in its State income work has proved quite satisfactory. But this is not to infer that this or any other regional classification based on a grouping of states is without rather serious limitations. State lines are not economic boundaries and, moreover, there are significant inter-State economic differences within each of the regions. To be really satisfactory, a system of regional classification would have to allow for numerous small regions that would cut across State lines and take full account of the economic characteristics of local areas."

A very useful summary of American work on Regional Research has been made by Edgar M. Hoover and Joseph L. Fisher.(1) They have examined regional studies from the particular viewpoint of "regional growth" and summarized the hypotheses and factors in the analysis of regional economic growth, growth differences between USA regions, and the various types of approaches used by the more promising work done on regional economic development such as that by the Committee of the South, the Federal Reserve Board of St. Louis, the Pacific Coast Board of Inter-Governmental Relations, and the New England Council. Their conclusion is that "In connection with the analysis of economic growth, the most appropriate concept of a region would seem to be a geographic area within which there exists an especially high degree of interdependence among individual incomes". (p. 178). We have preferred to interpret this approach as involving the delineation of areas in which there exists a high degree of interdependence of economic activity.

(v) Other significant works that may be treated as a sample of the large number of papers done on related problems, include the following. Bertil Ohlin, in his "Inter-Regional and International Trade" (Harvard 1933), did explicitly emphasize the importance of the spacial factor and tried to work it into international trade theory - in contrast to other works on international trade which did not treat the spacial variable. Among the works on industrial location, we might mention the British Political and Economic Planning Group which put out "Location of Industry" in 1939. The National Resources Planning Group put out a significant work on "Industrial Location and National Resources" (Washington 1933), in which they classified industries as market oriented, resource oriented, or footloose industries. The recent emphasis on the economic development of relatively undeveloped areas has produced significant works such as K. Mandelbaum's "The Industrialization of Backward Areas" (Oxford 1947), in which he gave some space to an explicit treatment on making adjustments for industries with relatively significant transport costs. The United Nations Technical Assistance Programme and the Colombo Plan have made significant studies on the development potential of specific areas. It is unfortunate that work done by the U.S.S.R. on regional planning and development (which presumably has some theoretical base insofar as strategic factors have been added to the list of basic location factors), has not been available to Western students. Their prewar economic atlases seemed to point to a meaningful framework and have been a model for other such work.

However, though the above have pointed to the factors to be considered in regional research, they have made a relatively small contribution to the specific problem of delineation of areas as compared with the basic contributions of Weber, Lösch, Isard, Vining and Bogue whose contributions will be discussed more extensively in the following section.

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(1) Edgar M. Hoover and Joseph L. Fisher - "Research in Regional Economic Growth", Part V of "Problems in the Study of Economic Growth" Universities-National Bureau Committee on Economic Research, N.B.E.R., New York 1949, pp 175-250; see also Edgar M. Hoover, "The Location of Economic Activity" New York 1948, which is a very good study based on the regional multiplier approach.

(vi) Alfred Weber : Many economists and others had enumerated the various factors playing a part in determining location and had described and classified the phenomena of geographical distribution. But in his pioneering venture "Theory of the Location of Industries" (English edition, University of Chicago, 1929), Alfred Weber attempted to master by theoretical analysis the data concerning the location of manufacturing industries. Although Weber still did not attempt a delimitation of economic regions, his pure theory, based on the knowledge of the general regional factors of location which control industry, is useful to those who are attempting to perform this task, because he drew attention to the necessity of dealing with the "somewhere" and simplified the analysis of the relative importance of location factors. His two basic general regional factors of transportation and labour orientation have been given a heavy weighting in our zonal scheme, and the third or agglomerative factor has been the basis of our sub-zone system. In our structural approach, we have emphasized the basic location of materials and power - the raw geographical basis. In the functional approach, labour and the agglomerative factor are stressed, for industry is agglomerated within the transportational network according to certain rules which are quite independent of geography.

However, we have not limited ourselves to the three basic factors revealed by Weber's pure deductive analysis, for we have also attempted to take into consideration not only the "pure" natural and technical factors, which apply generally, but also the special factors determining the location of specific industries, as well as the social and cultural conditions which our analysis of reality reveals and which must be taken into consideration in most practical applications.

(vii) August Lösch : Lösch(1) is one of the foremost contemporary spacial theorists concentrating on the pure theory of regions. He is looking for a "more natural and lasting spacial order of things", i.e. relatively independent economic regions. He adopts the ideal-type approach common in Germany (as in Max Weber), for he considers that "studying the ideal region is both the only way to learn about the essential and the first step towards investigating the actual structure of any real economic region". For this purpose he has set up an elegant theoretical structure showing how, in the absence of inequalities in the geographical distribution of raw materials, a plain would be characterized by : simple symmetrical, hexagonal market areas for various commodities; nets or belts of such market areas; and a further self-sufficient system of nets. The size of the market area for each commodity would be determined by the extent to which economies of large scale production would be off-set by the cost of transportation. However, as soon as we drop the assumption of a uniform plain and the assumption of uniform distribution of basic materials, the size and shape of these ideal market areas becomes irregular, and there is some overlapping of function - but on the other hand, belts and districts with raw materials become more clearly delimited. "A clear economic region is a fortunate accident rather than a natural sub-division of a state. Still, beneath a sphere of irregular market areas we find a regional sub-structure of varying importance almost everywhere." Although this approach comes more naturally to an investigator in a long established and densely populated, highly industrialized area, yet as long as the basic assumptions are roughly fulfilled, this theoretical approach assists greatly in our understanding. Lösch himself says "inequalities play a dominant role in modern industrial life and heterogeneity is more typical of market areas. As a consequence, analytical techniques for inter-regional and regional analysis should aim at encompassing the full range of both heterogeneous and homogeneous market areas." This latter area approach has been considered as a basic factor in our analysis.

(viii) Walter Isard : Isard(2) has worked on a regional extension of the input-output technique developed by Leontief , which he believes permits "an attack upon certain significant problems which logically fall within the jurisdiction of a general theory of location and space economy". Leontief has a balanced regional model which is particularly useful for determining regional implications of national projections - the Isard "pure inter-regional

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(1) August Lösch - 'Die Räumliche Ordnung der Wirtschaft', G.Fisher, Jena 1940;
- "The Nature of Economic Regions", Southern Economic Journal, July 1938, pp. 71-78

(2) Walter Isard - "The General Theory of Location and Space Economy", Quarterly Journal of Economics, Nov. 1949, pp. 476-506;- "Inter-Regional and Regional Input-Output Analysis, A Model of a Space Economy", Review of Economics and Statistics, Nov. 1951, pp. 318-328; and with Guy Freutel, "Regional and National Product Projections and their Inter-Relations", paper prepared for Conference on Research in Income and Wealth, National Bureau of Economic Research, May 1951.

model" is useful for determining the national implications of reginnal projections. The Isard model has not been developed to the point where it would treat the space factor explicitly and is, as yet, admittedly restricted to the more limited regional and inter-regional analysis within the rigid spacial framework necessitated by the postulates of input-output analysis (e.g. the implicit assumption of unchanging spacial relations between any producer and his suppliers). These spacial relations can change markedly with changes in freight rates, in which case it ~~a~~ppears that an entirely new model would have to be set up.

As far as demarcation of territory into meaningful and useful regions is concerned, Isard is looking only for a partial spacial breakdown to enable him to work with a fairly simple model. He wants a set of fairly self-contained territories in order to eliminate the residentiary industries from calculations of the inter-regional flow of commodities, thereby simplifying calculations because in this system each commodity class for each region must be treated as a separate and distinct item, different from the same commodity produced in another region. This approach is valuable insofar as it brings out differences in production-consumption patterns among regions, the regional balances of commodity flows and payments, as well as the internal inter-industry structure of a particular region. In addition, his model can yield superior estimates of the national reaction to the changes in the bills of goods, and should assist cyclical analysis by throwing light upon the regional transmission of impulses, and thus upon the neglected role of space in cycle generation. Insofar as we are interested in these objectives in our regional model, we have attempted to approximate such a system of relatively self-contained territories with a production and marketing pattern suitable for input-output analysis.

(ix) Rutledge Vining: Rutledge Vining,(1) of the University of Virginia and the National Bureau of Economic Research, is one of the foremost spacial theorists. He constantly emphasizes the need for study of the structural factors and operational characteristics of economic communities, and is concerned with the establishment of a model system serving simultaneously to define the meaning of an economic region through the relationship between regions. "It is my thesis that we should explicity introduce a spacial dimension into our conception of the economic structure of the nation. The inter-area flow characteristics are not peculiar to an international economy, and dynamic features of a system of flows - the phases of diseuilibrium through which a system passes in its aggregate rise and fall - are implicit in regional change at varying rates."

He regards regions as an irregular patchwork of sub-areas, each characterized by form and substance, a population system, and lines of communication connecting them into some kind of functioning system of entities. We seem to discern two approaches used by Vining to characterize his hypothetical regional system.

First is the production approach which he pursues through the concept of the carrier industry. "A community seems to be organized around its export industry, this being the source of flows which this community injects into the larger economic system and which are a balance for the flows diverted from the larger system and channelled into this community." These carrier industries create primary or active employment depending upon the demand for their products in other marketing regions. The demand for residentiary or passive employment on the other hand, is a dependent variable varying with the export income of the region. Since the respective active or carrier products of various regions are small in number, the primary zonestend to possess economic homogeneity.

On the other hand, Vining creates a model based on the trade or marketing structure. He emphasizes the orderly structural features of a population system based on hierarchical clusters - "It is this grouping of a nucleus with its subsidiaries and rural medium that I look upon as a primary unit, and I conceive of a half-dozen or so such primary units dispersed about a common special centre in which certain unique functions are performed", this primary unit corresponding with the familiar primary trade area. In turn, the net of primary trade areas are served by a single wholesaling centre and this concept corresponds with the familiar idea of the wholesale trade area. Both of these production and marketing approaches have been incorporated in our system because we believe that these two versions must be integrated - production and marketing are two sides of the same coin looked at from the income and expenditure viewpoint.

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(1) Rutledge Vining - "The Region as an Economic Entity and Certain Variations to be Observed in the Study of the System of Regions", American Economic Review, May 1949, pp. 89 - 104;
- "The Region as a Concept in Business Cycle Analysis", Econometrica, July 1946. pp. 201 - 218;
- "Location of Industry and Regional Patterns of Business Cycle Behaviour", - Econometrica, Jan. 1946, pp.37 - 68;
- "Regional Variations in Cyclical Fluctuations viewed as a Frequency Distribution,"-Econometrica July 1945 pp.183-213;

Vining has also done much work on business cycle analysis using the "centres of reaction" theory, and stressing that by keeping in mind the relevant features of industrial location, we can add to our insight on the dynamics of cyclical change.

(x) Donald J. Bogue: Of great significance to regional economic research has been the work done by D. J. Bogue in his study on population density configurations and, in conjunction with the Bureau of the Census project, his zoning of the United States into "state economic areas". (1)

State Economic Areas were defined as relatively homogeneous divisions of the States, consisting of single counties or groups of counties which have similar economic and social characteristics. The boundaries of each of the 501 areas established were drawn in such a way that each state was sub-divided into a few parts with each part having certain significant characteristics which distinguish it from other areas which it adjoins. In the establishment of these areas, the factors considered were the industrial and commercial activities, the production and exchange of agricultural and non-agricultural goods, demographic, climatic, physiographic and cultural factors. These "economic areas" were defined to refer to the "total adjustment which the population of an area has made to a particular combination of natural resources and other environmental factors". From the practical side, the de-limitation was made to create a set of 501 areas intermediate in size between the 3101 counties and the 48 states for the use of the growing body of analysts interested in data below the state level, but also evidently to reduce the cost of certain detailed census tabulations and publications.

This project is thus very much like the one involved in setting up the D.D.P. zones. In the Bogue procedures, however, their desire to stick to "objective statistical criteria" has led them, we believe, to stress the homogeneity of structural factors rather than functional relations which tend to involve heterogeneity of structure.

Vining is critical of certain aspects of this development and says, "Interpreted simply as a new set of areas for census reporting intermediate in size between the county and the state, the procedure described makes quite good sense. But there are overtones in the discussion that will suggest to some readers that the move was intended, that the work was carried on to such effect that the component 'economies' or 'regional economic units' of this nation have been discovered and approximately designated." (2) We believe that the D.D.P. approach differs from the United States approach to the extent that this criticism would not be justified in regard to our effort, insofar as from the statistical side, we have merely attempted to establish a supplementary means of organizing local data more meaningfully, and do not contemplate this scheme as a general replacement for the collection and tabulation of locality data (although for specific practical purposes where a short code or brief analysis is essential, this code can replace the detailed locality approach).

In constructing such a system of areas, many alternate criteria may be selected as a working rule, and the United States Bureau of the Census presumably selected those criteria having the most desirable performance properties in relation to pre-determined objectives. Briefly, the principles and procedures adopted were:

(a) Homogeneity of economic and social indices based on statistical and other objective evidence;

(b) Minimum size requirements of at least 100,000 inhabitants (metropolitan areas being such areas with a central city of over 50,000), or of at least 10,000 farms for agricultural tabulations;

(c) Continued recognition of existing county and state lines;

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(1). Donald J. Bogue - The Structure of the Metropolitan Community - A Study of Dominance and Sub-Dominance, University of Michigan, 1949 -
- "Economic Areas as a Tool for Research and Planning", American Sociological Review, June 1950, pp. 409 to 416
- State Economic Areas - A Description of the Procedures used in Making a Functional Grouping of the Counties of the United States', U.S. Dept. of Commerce, Bureau of the Census, Washington 1951.

(2) R. Vining - "Delimitation of Economic Areas" (see reference page 20), p.44

(d) A procedure involving a tentative plotting based on previous work on regional delineation, a testing of this tentative delineation through the above requirements, a review by other agencies, and a final determination by a working committee.

Vining thinks that these procedures make good sense in relation to the Bureau of the Census' particular purposes or objectives, namely efficient and economical statistical estimates and presentation, for this explains the size and homogeneity requirements. Where Vining thinks there is some confusion is in the idea that seems to prevail that by these procedures they have arrived at some kind of "natural area unit containing something that could be called a distinct economy, that can be discerned or perceived as an operating unit," i.e. definite and distinct quasi-organic socio-economic entities. And Vining certainly does not agree that these are "functional" units or areas. The Bureau defines "functional groupings" in terms of "total adjustment" but the indices of homogeneity used would indicate rather that the procedure was a stratifying procedure, useful for example in sampling techniques - and these strata are not "functional groupings" or "distinctive economies" and may or may not help in describing the structural factors and the operating and growth characteristicsof an economic system. Because Vining thinks that a research worker would set up his own set of areas for the purpose of testing hypotheses, depending upon his hypotheses, Vining goes so far as to say that "there exists no unique or single set of 'natural area units' as distinct operating entities and component parts of a human economy."

Thus, in Paragraph 5 we have seenthat the thesis that economic regions can be delineated has been built up by a series of thinkers, in Paragraph 6 we shall see this thesis attacked and an anti-thesis developed, and the question is whether something can be salvaged to help us out in our problem, that is, can a synthesis be constructed?

6. Can Economic Areas be Delimited?

The application of the theoretical work referred to in Para. 5, and particularly the work of the United States Bureau of the Census on the delimitation of specific areas, has been fundamentally challenged by Vining (1) who now suggests that the human economy in its spacial aspects of structure and functioning should be regarded conceptually as a continuum. He believes that seeking for a "natural" area unit for economic studies is based on the fundamental misunderstanding of the needs of political economists. "The student of the structure, functioning and development of an economic system may regard as not particularly relevant, the criteria used by the Bureau of the Census in the designation of the areas", and "the particular boundaries selected, I believe, should and can be defended on grounds other than those that may be found in the needs of political economists studying how the human economy works and develops as an organization." He then discusses various economic purposes in which a conception of regional or spacial structure would be used, but in which such areas would play no essential role.

"The economy is an organization of economizing units. The behaviour to be studied is not that of the units but rather of the system of units. As a population system, the organization is characterized by structural and operating features, and these pertain to the system per se, and not to any particular set of mortal economizing units that may exist at any specified point in time." In order to discuss the form and pattern assumed by this "system" without reference to any particular set of geographical sub-areas, he has to assume that an economy occupies area but that it is not to be identified with the area occupied - that is, he sets up a theoretical population structure in space but unrelated to natural resources, etc. This may be a legitimate theoretical construction, but one unrelated to practical requirements of a realistic model with export industries related to a natural basis, etc.

Vining's theoretical construction is based on two ideas. First is that of Walter Christaller who, in his "Die Zentralen Orte in Suddeutschland" (Jena 1933), set up a system of central places (the cities within an economy) in a pattern formed by the spacial orientation of these central places of various types. The attributes of spacial pattern are specified as follows:

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(1) R. Vining - "De-Limitation of Economic Areas, Statistical Conceptions in the Study of the Spatial Structure of an Economic System" - Journal of the American Statistical Association, March 1953, pp.44 - 64

operationally definable types or classes of population clusterings or central places; a natural ordering or gradation of these central places into a hierarchical system of centres; numerical regularity within this system with respect to the frequency of central places of a given type of size; and a numerically specifiable spacial orientation of the different types of central places. Vining combined this configuration of population density peaks with Bogue's density function to create a "spacial density configuration of economic units". Any large populated country can then be seen as a hierarchy, an inter-connected system of central places with satellite sub-centres at smaller density peaks. "The connections that link the density peaks into a system consist of the transportation and communication networks, and the entire configuration may be visualized without the aid of any sub-area designations regarded as economic regions."

Yet Vining still categorizes areas in terms of the spacing and clustering of economic units. The "dispersed units" are generally engaged in activities the locations of which are determined by the location of natural resources and thus are unevenly dispersed over space. These dispersed units are supplied and serviced from central places. In the "first order or smallest central places" are the servicing and supplying operations with the smallest market range. Several of these small central places are then grouped into a low order system of places centered upon a somewhat larger or "second order place", in which are found central goods and services with a somewhat larger market range, as well as processing requiring the assembling of resources, not all of which are found within the range of the first order places. Then, in turn, he sets up a second order system of centres grouped about a third order place, and so on. Thus, a central place of any given order is a source of central goods and services of all types available in any of the lower order central places within the system of which it is the centre. From the marketing side, it is the source of central goods, the market ranges of which cover the centres and areas included within this system. From the production side, it is an assembling and processing point for resources and products peculiar to the territory covered by its system of centres and destined to be shipped to the central place of other systems of centres. Thus, the central places are regarded as points of dispersion and points of absorption of economic flows. From each of these centres, physical products and services and their value are continually moving outward, counterbalancing the inward flow of physical products and value. Thus, Vining has moved from a spacial distribution of economic units to the spacial dispersion of economic flows in terms of density configurations of inward flows from origins and outward flows to destinations. Vining illustrates this approach in terms of carload rail tonnage:- in general terms, the relative frequencies of various distances hauled for various commodities; and in regional terms, of the frequency of distances of carloads of freight originating or terminating in a given state.

"This mode of describing the spacial structure of an economic system does not make essential use of sub-area designations as analytical concepts. When a particular place is under consideration, the essential matter is its orientation, type and role within the density configuration of which it is a part. Its flow connections are shown by its distance distributions - the terminations of its physical and financial flow originations, and the originations of its physical and financial flow terminations. The basic idea in this description is that of a density function; and that part of theoretical statistics which analyzes the conditions which generate distributions having specified forms is relevant in considerations directed to explaining the existence of the particular forms of the distributions observed and the processes by which these forms have developed."

However, the construction of a model with which one can work systematically requires the partition of a country into its component small areas, and the model becomes more realistic as these areas are meaningful rather than arbitrary. Instead of analyzing, as Vining does, the frequency distribution of car loadings originating in an arbitrary political area such as a state, surely it would be analytically superior to consider such data for a homogeneous state economic area, for then there would be meaning to the pattern. Even further, if the area studied represented a fuunctional transportation unit as well, then the transportation data could be tied in with the other economic characteristics of the area. The theoretical or indicated attributes of spacial dispersion would still have to be considered, but in addition, differences between the indicated and the observed would be explainable in terms of the specific production and marketing attributes of the area.

It seems to us that Vining has over-stressed the functional approach and the result is, as evident from the units studied, poor delimitation procedure. The problem of functional relations would have to be studied constantly in terms of the dispersion patterns for specific areas, and thus would be ad hoc, and this lack of a systematic area framework not only destroys the analytical basis but also prevents continuing statistical studies on a relatively firm basis.

We believe that it is necessary to have an operational model, for it can yield considerable insights into the changing character of a space economy which a non-realistic model such as Losch's, or on the other hand, a fluid non-fixed continuum model such as Vining's, cannot. Whereas the "State Economic Area" approach may have stressed the structural factors which enables easy delimitation, Vining has over stressed the functional which permits no delimitation procedure at all. Insofar as we have tended to consider both structural and functional approaches, we feel that we have still been able to arrive at a delimitation. We have attempted to do this by differentiating functional factors. From the frequency distribution of flows, it is known that there is a bulk of traffic movement associated with residentiary industries or with local wholesale or retail re-distribution from the central places. Since what we are primarily interested in as far as a forecasting model is concerned are the carrier industries, i.e. those which export goods outside to other areas, we may disregard local movement and therefore differentiate out those internal or passive functional ties, leaving the dynamic functional ties for special consideration. Therefore, what we are doing in effect is, instead of merely stratifying areas in accordance with structural factors, we have also attempted to stratify them according to functional factors. The theoretical reasoning behind this move is given in the following Paragraph 7.

7. The Theory of Zoning. The theoretical principles underlying our own zoning approach are as follows;

(a) Space is an Active Economic Variable.
The most important principle is that space should not be treated implicitly as a passive factor, but rather explicitly as an active factor. It is a complicated factor because its limits change, for the meaning and impact of space may change as transportation and communications are developed or as the costs of these services change. Thus, an area may be in a position to compete in supplying goods given a certain freight rate structure but if these freight rates rise, transport costs alone may price this area out of the market, space becoming a greater barrier. For regional analysis to be theoretically meaningful we must be able to show how the relation between any two regions would differ if these same areas were differently spaced, and a rise or fall in the costs of traversing space can be treated, in effect, as if space itself was elastic and could be stretched out or diminished in its impact. Space and the time required to traverse it are a determining influence on the structure of population densities. Thus the spacial structure, the pattern of inter-relation of regions and of nations, can change basically. To understand this requires proper spacial economic analysis, rather than the mere latitudinal and longitudinal positional analysis of the geographical approach.

(b) Space is an Economic Discontinuum: Radical version.
Just as there have been changing concepts of time, so we believe there should be a changed concept of space. Although they are each a physical continuum, conceptually they must and can be "measured off" into arbitrary units, whether minutes or miles. In economics, as in physics and other studies of phenomena having volume or spacial extension, empirical observations must be made. Further, in terms of human action these dimensions can be regarded as discontinuous and the minutes or miles can be grouped into periods and regions. Time and space are relative matters from the viewpoint of economic and social development. Certain periods of time can be "slow", others "fast" as far as socio-economic development is concerned. Similarly, certain areas of space can

be more meaningful than others in terms of economic development, and there tend to be pockets of growth, particularly in a newly developed country, although admittedly in a long-developed homogeneous country a regular pattern may develop more akin to the theoretical patterns of Thunen, Weber and Losch. Nevertheless, generally speaking, economic space is characterized by well known pockets of activity separated from other concentations of economic activity. These concentrations cannot be regarded as arbitrary - rather we must regard this phenomena as having meaning and therefore having to be explained. In most cases, the disjointed spacial development is due to the irregular location of resources favourable to human settlement and economic exploitation. In other cases, it is due to various humanly developed features such as the structure of transportation costs. For example, the transcontinental railway freight rates from Montreal to Vancouver were designed to meet the competition of sea freight rates through the Panama Canal, and these rates are lower than the rates for many intermediate points such as Calgary. Consequently, economic space as reflected in the costs of transportation is only indirectly a function of physical space. Technology has tried to minimize the effects of space but it will always be with us unless the economics of transportation is wiped out and the population of the globe is distributed uniformly over its area. Governments have attempted to cancel out some of the basic regional economic differences through the increased federalization of economic legislation and the growing importance of national monetary, fiscal and other general policies, as well as specific policies such as those affecting an industry like agriculture. Although this has resulted in a more uniform economic climate throughout the national territory, yet as long as spacial relations do affect the basic characteristics of regions, regional differences will tend to be with us and provision should be made for their study.

We have thus based our fragmentation of the national economy into area units or zones on the basis of the theoretical proposition that space may be a physical continuum but it is not a human continuum and specifically not an economic continuum. This is a radical departure from the theoretical premises of spacial theorists, particularly the recent emphasis of Vining. Perhaps we need not even take up such a radical position in order to justify zoning.

(c) Space, regarded as a continuum with varying density configurations, can be studied in terms of arbitrary discontinuities.
Even if we maintain the theoretical position that space is a continuum but with varying densities of activity, we could still take the less radical position that this population configuration is weaker at some points where the links appear rather tenuous, than at others where a strong concentration is evident, and that, as in all sciences, arbitrary discontinuities can be created to permit an empirical approach.

There are discontinuous areas of development which can be differentiated out as "natural" area units because they are more or less distinct operating entities. They are separated by relatively less densely populated, or even unpopulated, stretches of hinterland. In some cases the line of demarcation is obvious, such as a mountain range which can provide a barrier to transportation. In other cases, there may be a marginal area of hinterland related to two or more area units and the delimitation may be more difficult to determine, but is nevertheless useful to make even though slightly arbitrary.

(d) Space has both structural and functional aspects, as a unit of space in itself, or in its relationship to other units of space.
The above three theorems are based both on structural - organic factors (i.e. relatively fixed characteristics of the economic population), and on dynamic-functional factors (the relationships which pertain to movement and other relatively non-fixed characteristics of economic activity), because in the long run, a structure is a crystallized equation of functional relationships. However, in the short run, attention may be focused on either one or the other

type of factor. Thus, a market analysis would emphasize structural features (the number of potential customers, etc), whereas in a cost of distribution study, the emphasis would be on functional features (relative costs of different transportation approaches, etc.) A functional emphasis would tend to point up relationships with outside areas, with the result that structural features would be de-emphasized. This is true not only of economic studies but also of sociological ones (e.g. growth of mass communication techniques has tended to de-emphasize distinguishing characteristics of individual communities). Nevertheless, the structural features will tend to remain in one form or another, and there is a useful purpose to be served in having a general conceptual framework which makes provision for both types of phenomena and the appropriate approaches to their evaluation.

This position may be explained through a simplified analogy. A nation such as Canada may be compared to a string or net of pearls. The zones are the pearls and the connecting lines of communication are the strings. Each of the pearls is a definite structure built up around a foreign object - a set of layers of residentiary industries built around a core of carrier industries. Some of the pearls are smaller, some are larger, but they tend to be threaded onto the string in a certain pattern with the larger pearls set at intervals among smaller satellites - metropolitan centres at intervals with semi-dependent related areas building up to them. We can study the pearls or we can study the string connecting them - the area structure or the connecting transportation system - or we can try to study the gestalt, the string of pearls taken as a whole - the overall impression of the national economy. It all depends on our primary interest as pearl fishermen, as jewellers or as buyers. Each is a legitimate interest, each has its own conceptual frame of reference and yet all are related interests and should have related concepts.

(e) Space is most usefully delimited through consideration of long-term factors.

It is believed that a more permanent and valid delimitation can be obtained by emphasizing secular trend factors rather than short-term behaviour. Thus, less attention was paid to the analysis of the short-term business cycle characteristics of an area than to long-term factors such as population growth, transportation development, and investment potentialities for the development of natural resources.

(f) A general spacial theory is more likely to evolve through consideration of varied spacial conditions.

The sixth theorem concerns the attempt to work on the basis of a general spacial theory rather than a theory determined by a particular set of conditions. It is believed that the wider the range of conditions within the theorist's purview, the more general the theory is likely to be.

Canada is a wonderful laboratory for the study of regional theory because of: (i) the well recognized regional entities, and the spacial separation between significant areas makes the delineation of zonal units easier; (ii) the existence of regional dynamic factors such as the discovery of new resources, new frontiers and the flow of new population enables regional differential rates of growth to be exhibited and the inter- actions studied. There is present the full gamut of stability and instability, for it has areas being depopulated, stable areas and areas being rapidly developed; (iii) the wide range of types of resources, from the old exploited resources, some of them failing, to new resources being opened up, providing the basis for new development; (iv) the different structures of the various regions, due to specialization in production and differing dependence on external and domestic markets, results in more diverse regional behaviour patterns than in many other countries.

There is a wide range of regional ratios between export and domestic industries with some regions depending almost wholly on exports, other depending partly on exports and partly on domestic trade, and others depending almost wholly on internal trade. In fact, some sub-zones are so specialized with respect to both production and marketing that they can be taken as pure cases of inter-regional interdependence.

Despite the creation of a more uniform economic climate throughout the national territory as the result of national economic policies, and from the industry side the increased diversification of regional economies and the growth of branch plants, which tend to diminish the importance of local impulses, the structural differences are such and the spacial factor so important that regional studies will have a continued significance.

The above are the general theoretical principles underlying the work. The specific application of them is further discussed under "Methodology".

8. The Problem of Definitions: The most important single task in spacial analysis is the proper definition of a spacial unit, followed by the establishment of a defined spacial model.

The problem of definition has plagued the work of regional theorists for a long time. H. Odum and H.E. Moore, in their work on "American Regionalism " (Hott & Co., New York 1938), point to forty definitions of a region by twenty-eight different authors. Some of these definitions are not necessarily contradictory in reality, for the semantic problem is created by everybody using the term "region" to describe his particular definition at whatever level it may be, and whatever the criteria may have been. This is partially alleviated by calling them "physiographic regions", "economic regions", "cultural regions", etc.

A proper conceptual framework for the vital preliminary task of definition requires a clear-cut notion of what it is that we wish to study and hence, the criteria to be set up as basic analytical factors. A geographer interested in setting up physiographic regions would do it on the basis of physiographic factors. A sociologist might do it through the techniques of social ecology, i.e. the area distribution of social types and their inter-action. In the case of economic analysis, several criteria could be utilized. If we were interested in a regional business cycle study, i.e. wished to create a pure and simple dynamic model, we could merely classify the areas of the country according to their amplitude of business fluctuations, that is, their degree of vulnerability. However, if we wish to progress further to understand why some areas are more vulnerable than others, we would have to proceed to analyze structural factors as well, for the question of regional differences and cyclical behaviour is closely related to the theory of industrial location. When, however, we are interested in setting upa model for general area analysis to serve a maximum number of general uses, we must try to combine the structural and dynamic approaches, and use various basic crireria such as the production and marketing patterns. We must therefore study the areas in order progressively to differentiate out areas of differences, and contrary-wise, integrate areas according to similarity in relationships, in order that a suitable model be created. The first challenge is to discover the structural features and the operational characteristics of individual areas, and the second challenge is to set up the criteria by means of which these areas will fall into place within a pattern. The pattern may differ according to the criteria used, but we are interested in the basic pattern, the framework created by the most important and most general criteria.

Our approach has therefore been a strictly operational approach and the definitions are consequently operational definitions. From the data side, some information is available on the municipality basis, some on a primary trading area basis, and some useful data ~~are available only~~ for ~~large~~ provincial areas, but provision should be made for the receipt of data at whatever level they are obtainable. From the analytical side, provision should be made for an approach at any particular level depending on specific requirements. For example, marketing studies can be pursued at any level, but itis probably preferable to conduct them at the sub-zone level due to the pattern of local purchasing. As far as transportation studies are concerned, local traffic has a different structure than long distance railway haulage - in the first case one would tend to study intra-zonal traffic, in the latter case, inter-zonal movements. More theoretical studies of the processes of transmission of economic impulses would avoid the small areas which are generally passive subjects and insignificant originators, and would thus concentrate on the zonal level (rather than on the individual city

basis as done by Neff). Studies of the flow and balance of inter-regional payments would again be best concentrated on the zonal or provincial level. This flexibility tends to avoid one of the dangers of the wholly empirical approach, namely that the generalizations and concepts evolved tend to be tied to and determined by the limited nature of the body of data being worked on at the moment.

If a purely theoretical model was our goal, we could use various theoretical criteria for demarcation of our regions, and we could for example follow Hoover and Fisher and define our regions or zones as areas in which there existed an especially high degree of interdependence among the individual incomes. If we wanted a special regional model which would fit into a specific requirement such as input-output studies, we would define regions as those areas which exhibit self-sufficiency with respect to a maximum number of similar goods and services, for by this definition we would wipe out the residentiary or passive industry sector, reduce the number of goods and services entering into inter-area trade, and thereby reduce our computational problem and simplify the analytical procedure by concentrating on primary movers.

Our operational model of a space economy, however, represents a compromise of theory and practical requirements, and therefore our definition must take the following form. A zone is defined as a spacial unit which has a distinctive matrix of structural and functional factors with regard to both its production and marketing patterns, and for which statistical data on these factors can be derived.

9. The Methodological Approach.

(a) The methodological problem. By what technique has the model been created on the basis of the definition adopted? In order to perform useful area analysis, it is necessary to set up a zoning system for which the essential comparative data (on production, employment, etc), can be derived, while at the same time attempting to discover a nexus of industrial facilities such as natural resources, human resources, power, transportation and the related economic factors such as the cost structure (labour costs, etc). We might refer to this as the economic environment and the study of it as economic ecology. It is, in effect, a taxonomic approach but it differs from the similar work of most economic geographers and of statisticians who have created zones on the basis of statistical equalities, insofar as it does not rely solely on structural factors but also considers dynamic elements. The methodological problem has been tackled by means of a meaningful zoning system for the aggregation of data often compiled from different bases. A compromise was often necessitated by statistical factors. Though ideal areas for theoretical purposes may be conceptually derived, the requisite reliable data are not likely to be available on that basis. There is nothing peculiar to political or administrative districts which qualifies them for any purposes to which the economist must address himself (excpept possibly public investment policies), but practical requirements of empirical study might make them important determinants of delineation. Thus, the existence of county units are a determining factor in the zoning system instituted. The main problem in methodology is to be able to reconcile fact and theoretical fiction. Each method of aggregation emphasizes certain relations at the expense of others; - our methodology aims at discovering a conjunction of the most meaningful aggregations to obtain a progressive spacial order.

(b) Essentials for a Zoning System. The operation might be briefly analyzed in terms of the essential problems involved and the principles applied in seeking a solution to these problems. The first question would undoubtedly be: Why have a system?

(i) Convenience for compilation purposes. The zoning system is a way of organizing economic statistics on a geographic basis in order to be able to achieve useful generalizations at the less-than-provincial level. To avoid misunderstanding it must be emphasized that it is not meant to replace local data by counties, census districts and localities, but merely presents a systematic compilation by a more meaningful method than the usual alphabetical listings by counties and localities. This systematic compilation permits aggregation of data for successive analytical units. While others have also defined regions and justified them as "regions of convenience",(1) we find most of these schemes inconvenient mainly because data are not available on their basis. A prime requisite is therefore that one should be able to obtain economic statistics to fit into the system, and the system must consequently be built up from existing statistical units.

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(1) For example, Putnam and Others, Canadian Regions J.M. Dent & Sons, 1952, p41

ii. Coherence. There must be coherence, that is the approach must be systematic, and not ad hoc with different principles applying within different regions.

iii. Simplicity. It must be a comparatively simple system yet with as few over-generalized units as possible, in order that one may be able to trace effectively current economic conditions, and to provide a basis for successful forecasting.

iv. General utility. What we seek is a general system for maximum utility. Any number of specific systems can be devised, but we are in search of one that has the broadest applicability even though for special uses some further refinements or rearrangements might be necessary. Therefore the system must also be flexible enough to make provision for new combinations.

(c) Specific Principles Utilized.

How are the above essentials to be achieved? What are the specific principles, apart from the general theoretical principles, used in approaching the task and attempting to obtain a solution?

i. Use of Existing Statistical Units: The existing statistical units are used rather than new ones created because of the problem of comparability in historical series, etc. This means using census units based on county lines, and the recognition of provincial boundaries (although there remains a further possibility of integrating larger geographical regions across provincial lines.) There are only two exceptions in the present system to the rule of zones not crossing country lines, namely Burlington Ontario, and Battleford, Sask. whose locations are such that they belong in one zone although the rest of the statistical unit belongs in another zone. If and when there is a possibility of changing the existing statistical units, there could be a large number of useful changes made which would enable a more meaningful zoning system.

ii. Aggregation of Adjacent Spacial Units: The dominant consideration is that of meaningful spacial aggregation. An alphabetical sequence cannot be aggregated into subdivisions and therefore that and similar approaches cannot be used. We have adopted the principle of adjacency or contiguity. Theoretically, a system could be set up based on homogeneity of structure disregarding the possible non-adjacency of the area units combined. This approach would serve specific industrial forecasting requirements, but when a general approach is required, overlapping and related industrial structures make this approach cumbersome. For most purposes, the adjacency principle is significant, and it stresses location factors and spacial relations which are dominant considerations in an area approach.

iii. The Reduction Principle:

Every area is unique in some way, however insignificant that difference with a neighboring area may be. However, a manageable model requires the reduction of the number of areas handled to as few areas as it is possible to create according to the principles set up and used. Therefore, minor differences between adjacent areas are progressively differentiated out leaving four stages of progressively broader categories. To use a simile, this process may be compared to a camera with four focusing stages. However, the process of reduction is difficult, and that is the reason why a specific formula had to be developed. Nevertheless, the procedure is still not as easy as the automatically applied statistical tests used with the relatively simple homogeneity models. No floor was set as to size of population of the different stages, nor any ceiling - for the attempt was merely to uncover the zones and sub-zones as they tended to exist rather than to force them into straight-jackets of minimum or maximum size. This principle is fundamentally different from the rule used by the U.S. Bureau of the Census in its "State Economic Areas", which had to fulfill the condition of a minimum population of 100,000.

(iv) Aggregations of Spacial Units related in a Specific 4-Factor Analysis:

The actual operating principle of aggregation is embraced in what we have come to term the SFPM formula. This formula indicates the specific factors that we have considered (and equally indicates that we have not based the system on other factors such as personal incomes). The four factors are used to set up a matrix analysis of areas, a four-sector grid stratifying areas by the Structural and Functional factors on the one side, and by Production and Marketing factors on the other. For the analytical description of the individual zones (Section E), the factors are defined as follows:-

(a) "S". This symbol stands for the Structural factors. Since structure is defined as the basic organization of stable elements, the structural factors are defined as those involving the basic location of natural resources (raw materials and power), as modified by the actual distribution of the human and capital resources required for economic activity.

However, in the brief analytical descriptions of Paragraph 23, we have stressed the natural structural factors, the human and capital factors remaining implicit. This is done because the zoning scheme aims at an equation of the zonal level of our functional sub-zones on the one side, and the purely structural sub-zones of the geographers on the other, and therefore the relationships of the economic zones to the "geographic regions" are stressed.

(b) "F". This symbol stands for the Functional factors, ie. functional activity and functional relations analysis. These are the activities or functions performed by the area in terms of the specific relations of these activities to the requirements of the local structure and of the general economy. Therefore, we have defined the functional factors as those involving the transportation and labour orientation of the area, and its agglomerative pattern. The local transport situation is considered as a basic unifying tie, while transport facilities with the outside are export connections. The presence of a unitary labor market as reflected in the presence of a National Employment Local Office is also stressed. The agglomerative pattern is indicated by the description of the order of the centres in terms of the population density configuration (see also Para. 22).

(c) "P". This symbol stands for the Production factors. In the zoning process, homogeneity of the structure of production is stressed as well as certain specific functional relationships (eg, forest hinterland to pulp industry). In general, the zones are broad production areas, and the sub-zones are even more uniform, and are often closely integrated, production-wise.

(d) "M". This symbol stands for the Marketing factors. The marketing situation is analyzed both in terms of the internal structure of consumption, and of the marketing relationships to other areas. In general, the sub-zones are primary trading areas, but the zones are not necessarily wholesale trading areas, though they tend to perform some of this function.

The possible combinations of this matrix are therefore SP, FP, SM, and FM, but in the analysis of paragraph 23 the emphasis is laid on the important aspects of the basic factors SFPM even though this multiple consideration involves overlapping in the descriptions.

(d) Supplementary Theoretical Concepts.

The above specific principles provide the matrix or operating table for the operations involved but require some further instruments for the actual dissection. Localities fall into certain orders when five further concepts are utilized.

i. The concept of spacial relations. Space is one of the fundamental factors, its impact easily realized in a far-flung country such as Canada, and any zoning system must provide a means of systematic allowance for this factor. The spacial relations, as evident in the transportation network and the absolute distances involved, are stressed.

ii. Centres of influence, i.e. the concept of the position and status of localities and their spheres of influence in the face of inter-centre competition. These centres of influence are derived on the basis of population and trading factors, and checked from administrative experience which tends to take advantage of this phenomena.

iii. Hinterland relations. i.e. the concept of functional relationships between centres and their hinterlands. Hinterlands are related to these centres as far as possible.

iv. The concept of dynamic inter-zone activities (i.e. export carriers), and the corollary concept of the more passive intra-zone functions. The residentiary industries are kept within the unit as much as possible, so that the links of the zone with the outside take place through carrier industries.

v. The Interrelation of Institutional Factors: The normative or institutional elements of every society are interrelated and many of these have concrete organizational manifestations which are not primarily of an economic nature but which are of economic consequence. These non-economic organizations are subject to many of the same location factors as the economic organizations, particularly with respect to labour orientation and agglomerative influences. Thus economic centres tend also to be centres for such social and political organizations, and thereby tend to become the true cultural foci of their regions. Consideration of such non-economic institutions and their related organizations often assists in the determination of the zones of influence of centres.

(e) Continuing Methodological Problems.

What are the continuing problems? Obviously the system is not claimed to be perfect, for there are various continuing issues which preclude finality.

i. How appropriate are the basic units used? The census districts are in some cases awkward and even artificial, that is they do not coincide with natural or economic factors. The question of the possibility of changing the census districts has been broached by some geographers and those interested in regional developments. Of particular significance is the criticism of the census districts in Western Canada. In British Columbia in particular, the units are quite large and not amenable to functional combinations, so that the zoning is to a large extent a repetition of the present census district presentation. Since there are a large number of census districts in the Prairie Provinces, combinations are more possible, although there are still a few awkward spots. The two most glaring examples of awkwardness in tying counties or census districts into zones are the cases of Burlington, Ontario and Battleford, Saskatchewan, for they involve the breaking up of an existing county and census district to fit these two localities into their proper zones.

ii. How tentative are the zonal boundaries? The aim of setting up a zonal scheme is that it might have validity over a considerable period of time. However, new regional centres may arise in the future. In most instances this would merely cause new subzone divisions of the existing zones, except in cases where one of a series of existing centres may become more dominant and take on a metropolitan function, or in a case where a marginal area may see considerable unexpected development.

iii. How permanent is the zonal pattern? Although Canada is a highly dynamic country, much of the pattern of its development has been established and most of future growth will likely tend to be channelled through the existing structure. Because structural factors were taken into consideration in the zoning scheme, and emergent factors were given due weighting, within the foreseeable future development will tend to proceed according to this pattern. This possible long-range usefulness of a zonal scheme is possibly one of its greatest assets, for it is our belief that any subsequent changes in this system will likely be minor. However, we must consider as a problem the possibility of major developments upsetting the present pattern.

iv How Arbitrary are the Demarcations ?
There are a few anomalies or awkward spots in the system but we have not tried to glide over them and disregard them, rather our sub-zoning system is perhaps a little complicated by the use of "districts" merely because we wanted to point up these anomalies for the moment at least, until they can be resolved. We believe that the basic zonal divisions are reasonably valid and that any changes will tend to be marginal and will not upset the basic zonal code unduly. Of course, there may be argument about the exact lines of demarcation between zones. It may be pointed out however that there is considerable overlapping of activities and even of physical features (for example the withdrawal of forest lines), so that it is futile to search for completely natural divisions. Thus, since any division must be to some extent arbitrary, it is reasoned that it might as well be arbitrary along a fixed line of demarcation which has meaning for economic statistics.

v How flexible is the system ? On the question of subzones, it is possible that some users may not find the functional sub-zoning approach suitable for their requirements - they may be more interested in structural subzones. In that case it is not necessary to apply the whole DDP system, but unity in the demarcation of zones is a desirable goal, for it is only in this way that the structural approach can obtain a whole range of essential statistics.

vi How useful is the system for future research ? The partial overcoming of the methodological problem, though a significant step, only marks the beginning of regional research. Though many are interested merely in local economics, the more significant search is that attempting to establish relationships between regional and national developments, and thereby contributing to the understanding of the dynamics of the national economy. The study of the economic interdependence of various parts of the country involves the examination of the inter-regional flow of commodities, and it is for that reason that we are interested in Input-Output Studies with a regional dimension and in the various other theoretical fields outlined, such as the flow of interregional payments, the transmission of impulses etc. We believe that the system set up is useful for such research, but in turn that the types of research spelled out in the following paragraph may result in an eventual remoulding of the system.

12. Uses of Zoning in Economic Analysis

What are the results expected from this economic zoning system? The model has been found suitable, or is considered potentially suitable, for ten general categories of economic analysis.

i. Primarily of course, it is useful as a simple framework for organizing data from various sources. For example, a matrix consisting of a cross-classification of the sixty zones by the forty-five major groups of the Standard Industrial Code provides a very interesting framework for industrial and area analyses.

ii. Because natural structural factors were considered in setting up the zoning system, it provides a useful framework for studies of the relationship between the resource background and the economic growth and dynamics of individual areas - what we might call economic ecology.

iii Because existing man-made or capital structural factors were considered particularly at the subzone level, the scheme provides a useful model for studies of the nexus of industrial facilities, power, transportation, etc., that is the intra-zonal structure. This model is equally useful for studies of functional relationships within this zonal industrial structure. For example, there would be a useful testing of the hypothesis of the necessary relation between tertiary industries and growth.

iv. Because the residentiary industries have localized relations taken care of by the intra-zonal structure, the remaining flow of goods represents the carrier industries, the study of which is significant in

determining inter-zonal relationships. This differentiation of passive and export industries is also vital in studying area dynamics - the competition between industrial areas - and the business cycle aspects of the transmission of cyclical impulses between regions, and how space modifies the force and manner of transference. Lags may be spacial as well as temporal. Conversely leads are significant for the forecasting model.

v. Taken together, the intra-zonal and the inter-zonal flows of goods enable studies of zonal input-output characteristics. For impact analysis, however, intra-zonal relations may be neglected because they result in no change in the distribution of impact as between zones.

vi. Although the factors to be taken into consideration in planning the location of specific plants producing specific products may be highly specialized, the zonal system should nevertheless assist studies of industrial location factors, particularly transport and labour orientation from the production side, and market relationships.

vii. Conversely, zonal indices of industrial concentration can be of general assistance in studies of problems of industrial dispersal or de-centralization.

viii. Insofar as production factors were taken into consideration in the zoning scheme, the resultant zonal structure should assist studies of regional differentials in costs of production, particularly as these may be affected by such costs as transportation. Such studies on zonal differentials in labor costs, transport costs etc., have been conducted for specific purposes under the defence production program.

ix. The inclusion of marketing criteria in zoning procedure should make the zoning scheme very useful to business for market analysis purposes, including such particular aspects as costs of marketing, relatively homogeneous consumer preferences and expanditures, interdependence of income factors, etc.

x. The zoning scheme also serves as a useful area forecasting model. The correlation of production and marketing factors facilitates a correlation of income generation and consumption potentialities. The use of functional areas revolving around the principal centres enables the use of such data as bank clearances, and points to the possibility of following trends in these local economies through the moneyflows or transactions approach.

The above listing of possible uses of the zoning system is meant only to give an indication of the potential utility of such an operation. In fact, the possibility of such uses was an important consideration in setting up the scheme itself. Other uses are however possible and in fact to be encouraged, such as the correlation of data produced by those interested in a structural approach such as the geographers and agricultural economists. The definition of the subzones may vary as greater emphasis is placed on the structural rather than the functional approach, but at any rate as long as there is agreement on the zones, the correlation of data is possible at that level.

C. The Practical Aspects of Zoning

11. The Direct Practical Need for Zoning

The history of zoning efforts is very revealing with respect to the interests and problems involved.

Great encouragement was initially given to zoning work in the Department of Reconstruction and Supply by the interest of the Dominion Bureau of Statistics and two provinces, Ontario and British Columbia, as well as that of other government agencies and university people. The revival of zoning work for D.D.P. purposes coincided with further D.B.S. interest, together with extensive work on the part of geographers and regional economists. In particular, we have been much indebted to the work of geographers, although our slightly different stress, particularly on the possibility of using available economic statistics, prevents us from agreeing with their models. For example, our approach has been governed by the fact that area data are available by counties and census districts and although the definition of zones on this basis may appear to some to be slightly arbitrary, it is, we believe, less arbitrary than an approach utilizing physical features (which often involve a wide band of transition area) as the basis for subdivision.

The three provinces most concerned with this approach (Ontario, B.C. and Quebec) were probably so inclined because they encountered most acutely the same problem that concerns certain federal agencies, namely the mass of locality and county information that has to be organized in order to be properly evaluated. The size of their populations, and the wide variations in the economies of the different parts of their provinces, made a further general "breakdown" necessary. The expressed need for this zoning approach is evident in the Annual Economic Surveys published by the Province of Ontario, and the "Regional Industrial Index" published by the Province of British Columbia.

However, we are confident that a zoning approach would also be of interest to the other provinces not only because it would help them to understand the trends in the various sectors of their provincial economies, but also because it would help them to follow trends, not just in other generally dissimilar provinces taken as a whole, but in zones comparable to their own (e.g. comparison of conditions in Annapolis Valley and Okanagan zones).

The practical need is evident. How can it be met? The spacial theories as given in Part B. may seem remote from everyday requirements. How can they be adapted to reality so that they can be used? The following paragraphs indicate the adaptations required (para.12) and the operating principles used (para.13). Although some of these principles of practical application have been brought up in the theoretical discussions of section B, at the risk of some repetition, an attempt is made to treat them more systematically in this section.

12. Adaptation to Reality

The theoretical structure is useful to organize and analyze the basic material, but in the process of fitting it to reality, certain assumptions must be "de-simplified", conclusions modified, and theoretical compromises made. Above all, though ideal areas for theoretical purposes may be conceptually derived, the requisite reliable working data may not be available on this basis.

Thus, zoning can produce an important analytical tool for area analysis, but there are many problems which are met. This paragraph attempts to establish the general adaptive principles to be used, according to which the problems may be solved.

(a) The practical limitations of theoretical ideal-types of economic zones

The general principles of economic zoning have as yet not been developed adequately to serve as a model for direct application to our requirements. The theory of the ideal-type of economic zone has been worked out by Losch, but only in a few isolated instances can it be precisely used at the present time. The general principles can be adhered to, but various adaptations are necessary due to the following factors:

i. The relative *infrequency* of the ideal-type in the actual economic structure of the country. It is a fairly rare instance where a centre engages in one predominant activity which at the same time is such that the environs of that centre are directly dependent upon it.

ii. Theoretical Limitations. It is still doubtful whether the creation of ideal-type zones will not so fracture the concept of interdependence of various zones in a highly developed and dynamic economy that useful correlations will be lost in the process. The further any structure is broken down, the greater the tendency to lose sight of the interrelationships of the parts that go to make up the whole. In some cases, the parts have as a great an independent reality as the whole, especially where the whole is to a large extent somewhat of a mechanical aggregate of these parts. But the further the fractionalization, the pulling apart of the economic structure for analytical reasons, the greater the tendency to disregard the very bonds which unite zones into regions and a nation. Thus the operational aspect of zoning must not be of such a radical nature that the functional unities are equated out of the system.

iii. Statistical Limitations. Statistics are compiled for certain predetermined units such as cities, counties and census districts, and these are rarely of a homogenous nature, nor do their boundaries conform to economic realities. Transferring the ideal-types into practice, one would have to know whether the data are available on the basis of these ideal-type constructs even if they could be set up. *Practically speaking, the ideal-types would have to yield to certain established units on the basis of which the data are, or could be collected.*

iv. Practical Requirements. Homogeneous zones might be established, but they might tend to be of such a large number that they would be difficult to manipulate analytically.

(b) General Considerations in Realistic Adaptation

i. The type of zoning carried on depends upon the final objective in mind. There are many types of zoning possible, each adapted to the ends of the research being carried on. The zoning is merely a means to that end. Thus there are geographic zones, geological zones, orographic zones, vegetation zones, etc. For economic zones, if the primary end is the study of a national economy for the purposes of forecasting developments in that economy, the zoning may be such as to merely supplement the general picture with a more detailed geographical breakdown. If a mechanical tabulation process is involved, the zoning can be merged despite any arbitrariness in zoning.

ii. However, the zoning itself can be very closely related to certain ends in mind, particularly where one of these ends is a study of particular areas delimited by these zoning criteria. In this case, the zoning can be much less arbitrary, insofar as the territorial units must have evidences of internal cohesiveness. This territorial unit may have the cohesion of common interests, common life, common influences which enable it to comprise and be called a community, whether this community be a constellation of political, social or economic factors, or, more likely, combinations of these factors.

iii. Generally, however, economic criteria are often so bound up with other factors that it is difficult to abstract zones on purely economic grounds. The often arbitrarily determined boundaries of political communities or of official procedure, may not necessarily comprise communities of prime interest. However, insofar as many economic factors (e.g. public investment), are determined by the action of these political communities, economic zones as defined here will not run across the major political divisions.

However, by adjusting to these realities where they are important determinants, and abstracting from them where possible because of the relative importance of other considerations, it may be feasible to establish economic zones based as much as possible on the ideal-type theories.

v. The next criterion to consider is what are the basic economic data to use in delimiting such zones. Insofar as income and employment are the two criteria considered to be most important from the point of view of government action as well as from the viewpoint of general econometric methodology, it would probably be wise, if possible, to use these criteria in determining the nature of economic zones. However, one must ascertain whether the conjunction of these two factors is always as useful on a zonal basis as it is on the national basis. In the present state of national income work, it is very difficult to carry this approach through on a provincial basis let alone for smaller units, due to problems such as lack of area data on sources and distribution of corporate profits, etc. Concepts of wealth, including natural resources, also have to enter here. Therefore, temporarily we have to be satisfied with the available series on the value of production and the personal income estimates by provinces.

v. Furthermore, one would have to establish the criteria of zoning, i.e. whether to zone on the basis of homogeneity of structure, or of internal consistency of structure even though the unit is heterogeneous.

vi. The final constructs would probably be so influenced by external exigencies that the ideal-types system would have to be abandoned because the principles are no longer consistently applied. This is probably the inevitable outcome in the present state of area studies and area statistics. However, a continual reworking of the zones on the basis of adjusting them to fit the ideal constructs as much as possible has helped to achieve the regional forecasting structure envisaged. The principles have been reformulated onto an operational structural-functional, production-marketing basis as the practical work of zoning was conducted, but the resulting synthesis should form a useful and workable scheme.

c Practical Principles Based on Previous Zoning Attempts.

In view of the operations involved in previous zoning attempts, particularly that conducted in the Department of Reconstruction and Supply, the following operational questions arise:

i. Because of the problem of the non-homogeneous basic statistical unit used of necessity, it is problematic whether to set up regional units on a more rational basis and disregard existing statistical boundaries. This would be a relatively simple operation where the marginal areas are economically non-operative or insignificant. However, such an operation has had to be performed in correlating local office areas and the rigid census zones, and the principle of cancellation of marginal effect has been adopted to overcome this problem.

ii. The further step was to form basic units at the local level and build up, regardless of formal boundaries, instead of working downward from the national basis as was done previously.

iii. The overlapping of certain zones, particularly the metropolitan divisions, could not be overlooked for it led to imprecise and arbitrary delimitations of zones.

iv. In general, though the economic criteria of principal industrial activity, occupational and employment structure, and principal sources of income are dominant, various geographic, political and social criteria should be applied as a test, and often adjustments based on them made. The principles used in judging zones as integers must be applied consistently, and the method followed must be evident in the logic of the principles enumerated.

(d) Principles of Zoning for Cross Classification by Economic Characteristics and Specific Economic Problems.

A zoning system must pass the test of internal logical consistency. But because it is merely a means to an end, its usefulness is determined by the test of its suitability in tackling specific economic problems. Are the zones specific and homogeneous enough that a specific problem can be traced back to a single zone or a small number of these zones, or are they so heterogeneous in structure and consequently awkward to handle that they do not serve the purpose for which they were devised ? After all, the final purpose of area or zonal studies is functional specificity as contrasted with the generality of the overall system. Consequently the following principles must be kept in mind :

i. The smaller the unit, the greater the chance of homogeneity and specificity.

ii. However, in the case of metropolitan zones with a complex industrial structure (eg.Greater Toronto), further specificity is obtainable in terms of the industrial structure of that zone, so that each of the major industries of the zone can be treated as a separate unit or industrial sub-zone.

iii. Since the fundamental criteria used in establishing the basic unit or sub-unit are the combination of availability of current data and simplicity of structure which makes simple generalizations possible (even though on the basis of non-current data such as the census of agriculture, with any modifications if current data even though qualitative is available), such analysis of specific problems is considered much more probable than in the absence of a zoning system.

iv. In most cases, the zones should be dominated by a single labor market area, whether of location, or in cases of combination of labor market areas, of kind. Also, in most cases the principal sources of income should display dominant items.

v. Consequently, the zones should be a suitable basis for cross-classification by economic characteristics and economic problems. The criteria of "economic problems likely to affect a zone" should always be kept in mind, as well as the principle of homogeneity of zones, which could permit the grouping of zones according to the type of problem they are likely to meet.

In the Department of Reconstruction and Supply effort, agricultural zones (according to the Dept. of Agriculture System of Zoning) were kept as intact as possible to enable the tracing of effects of price changes. On the other hand, large zones characterized by similar types of production were often sub-zoned if they were too large to permit the impact of certain natural forces such as drought, etc. to be localized. Thus the broad wheat belt was zoned according to past experience with regard to the impact of those natural conditions, although it might have simplified the structure slightly to have them grouped further into the single zone. The above zoning principle is suitable where considerable specificity in that line is required. For D.D.P. and other general purposes however, the broader agricultural zone was considered adequate.

vi. The classification of the zones can be carried out according to the present state of knowledge, but more exact classification might come with the availability of more extensive industrial and agricultural data from D.B.S.and various provincial and other agencies when they find it possible to work on the zoning basis.

vii. The grouping of certain zones into major metropolitan "regions" can indicate the zones which are more closely tied in such functions as subcontracting the defence program, than the "untied" or "dispersed" zones which are generally more dependent on the defence supporting category. Thereby some break can be made with the concept of unitary regions, but this distinction is considered to be potentially significant. All in all, an attempt should be made "to keep an eye on as many balls as possible", not the least of which is the aim of ultimate ease of cross-classification by problems.

viii. Given the foregoing principles as a starting point, the zones would then be manipulated into a tabular set-up whereby the zones are indicated along one axis and the economic characteristics along another, and then each type of data may be filled in so that the distribution of dominant characteristics may be made more evident.

ix. The cross-classification process in turn may yield many fruitful generalizations as to the impact of specific factors on the different areas.

x. The ultimate purpose of this cross-classification process is, however, to facilitate the integration of industrial and area studies. Going on the assumption that industry studies are of very great importance and will be pursued continually, this zoning model permits an extensive use of that information cross-classified in convenient geographical units.

(e) Specific Criteria for Cross-Classification of Zones

A system of specific indicators has been evolved to illustrate in a concise manner the major characteristics of the zonal economies and thereby enable one to group them in classes and categories. The following more general indicators may be considered for a long term project :

i. Production and Industrial Pattern The major categories and leading individual industries and products would enable the classification of zones according to :

- primary, secondary, tertiary, or balanced industrial structure;
- extent of dependence on a single or a few industries;
- the employment aspects including the possibility of labor transfers.

ii. Market Relationships Except for information gained from special confidential surveys these can only be estimated from a knowledge of the production in the zone and the national trade statistics. However, an indication may be gained as to :

- domestic or foreign, direct or indirect marketing. This will indicate the extent of domestic autonomy or interrelationship with other zones, and sensitivity to foreign marketing conditions;

- diversity or singularity of markets i.e. vulnerability, particularly as to currency area in the case of foreign dependence;

- stability, continuity and uniformity of sales;

- relationship to trade problems such as tariffs.

iii. General Behaviour The general behaviour of individual zones could be classified with respect to :

- the extent of resources;
- seasonality;
- cyclical stability or instability;
- secular trends.

iv. Specific Behaviour For the short term requirements of an agency such as D.D.P., the following criteria may be added :

- extent of direct defence contract capacity;

- extent of indirect contract effects, and the subcontracting and supplying functions;

- the extent of defence supporting industries.

13. Operating Principles in Setting up a Zonal Coding System

To achieve this adaption to reality, the formal theoretical principles given in section B and the general adaptation principles given above must be supplemented with operating principles which would enable an appropriate coding system to be derived. There is little question about the necessity to organize area data into a meaningful system. The real question is, what type of system is not only most meaningful but will also simultaneously lead to efficient operations. There are a number of area data systems in effect, and the operating principles must be such that they can tie these together in an effective manner and still retain the economically meaningful frame of reference.

i. The DBS Standard Geographic Code for Manufacturing Statistics does a good job of systematic identification of most localities by using a 5-digit code, based on the province (1st digit), the county (2nd and 3rd digits for counties arranged in alphabetical order within each province), and the locality (4th and 5th digits; the 4th digit arranging the localities by size groups, the 5th alphabetically within size group). However, anyone having to use such tabulations consistently (particularly in conjunction with other data on another basis, such as N.E.S Local Office data) will find great difficulty in aggregating data for meaningful units.

ii. The need is therefore for an administratively manageable system of coding localities so as to obtain required levels of progressive and meaningful aggregation. The system must be simple so that a clerk in an administrative office can readily locate major localities from the listing, or place minor unlisted localities by referring to a standard reference such as the DBS Standard Geographic code book, or a Dun and Bradstreet Directory. Our experience has shown that the DDP system, though perhaps awkward at first glance, meets this requirement. The system must also be adapted to easy coding for IBM or Keysort card or other mechanical or semi-mechanical systems for rapid sorting and aggregation of data.

To that end, a 4-digit code was devised for the significant localities. If, as in some cases, the 3-digit subzone code is sufficient (e.g. for easy correlation of net plant loading with the state of the National Employmeht Service, Local Office labour market), the 4th digit may be dropped. In the DDP Code (Section III), the 3-digit sub-zone system is given on the left and the 4-digit locality code on the right.

iii. Definitions must be precise. An attempt is made to avoid the confusion resulting from multiple definitions of the term "region" which at one and the same time has been used to signify a major division of the national economy (e.g. Maritime Region), a major division of a province (e.g. Cape Breton Island Region), and also a subdivision of this division (e.g. the Sydney Region), as well as other more specialized uses (such as "The Sydney Milk-Shed Region", "Sydney Mining Region", etc.).

The suggested hierarchy of terms, and the associated coding procedure are as follows :

Code	-	Term	Description
No Code		Region -	This term is reserved for the most widely used interpretation of the word, to signify major multi-provincial economies (e.g. Prairie Region, Atlantic region). Being a simple combination of provinces, these regional totals can be simple aggregated and do not require a special coding procedure.
0	1st digit	Province -	The standard order is adhered to with the exception that the cypher 1 is used to identify an artificial province consisting of P.E.I., Yukon and the North West Territories. These 3 units are treated as zones, and differentiated at the 2nd digit level, that is P.E.I. is coded 10, Yukon 11, and N.W.T. 12. For studies involving the coding of areas outside of Canada as well as inside, an extra-national code is possible through an extension of the cypher 1 combination Since the cypher 1 in the 1st digit

Code	Term	Description
	Province (cont'd)	must be re-sorted on the second digit anyway, the foreign field can be treated with this cyphor, by classifying the major foreign areas immediately in the 2nd digit, e.g. 14=USA, 15=UK, 16= all other Countries, and the 3rd and 4th digits may be used for further classification.
00 First 2 digits	Zone	A major economic subdivision of a province, or of the multi-province combination 1. These zones are given names in accordance with their general nature. The names are simple or complex depending upon the structural base and the relative dominance of their functional centres. Thus, a simple geographical name such as "Central Newfoundland Zone" indicates a structurally identifiable area with no dominant functional centre. A functional combination of 2 such non-dominant areas is indicated with an oblique linking-e.g. "North Shore/New Quebec Zone". The presence of a major functional centre (with population of over 50,000) is shown with a hyphenated prefix-e.g. "St. John's-Southeastern Newfoundland Zone", and if the centre is a major national one, that centre is zoned by itself and this is indicated by the "Metropolitan" suffix as in "Montreal-Metropolitan Zone". Where two such centres are involved in the same zone, the city names are linked with an oblique-e.g. Kingston /Peterborough-Lake Ontario Zone". Thus all functional centres of over 50,000 (1951 census) are specifically mentioned in zonal names, and where no such name appears the zone is a marginal one concentrating on primary types of production.
000 First 3 digits	Subzone	These are basic local units, subdivisions of the zone, and their differentiation is founded on basic local functional-structural characteristics. The types of subzones are identified as follows : A subzone simply named after a dominant locality is one that represents a standardized local office area, i.e. it is an area closely related to a centre which has a N.E.S.L.O. (eg. 000 St. John's Subzone). A subzone labelled as a District, (eg. 001-South Coast District) is one which has no such dominant centre, but which has to be treated as a separate subzone because of various production and/or marketing factors. These Districts thus represent deviations from the N.E.S. L.O. system of area definitions.
No Code	Metropolitan Area	This is an aggregation of a major locality and its adjacent unincorporated suburbs, as defined in the "Greater City" concept used by DBS. No separate coding identification for aggregating procedures is provided except that a city named in a zonal title, combined with a 1 or 2 in the 4th digit, indicates a major centre that will likely involve this procedure, followed by other units and terminating in a "Rest of Metropolitan area" category. In some cases a metropolitan area may involve parts of 2 subzones (eg. Quebec-Levis). No automatic sequences are provided due to differing interpretations of the definition of Metropolitan areas. However, the code does have provision for metropolitan units for tabulation purposes.
0000 4 digits	Locality	Important municipal units are given a specific 4-digit code, whereas the less important units are combined into a "rest of county" code. By this system the separate identity of minor centres is lost, but from the analytical viewpoint this represents a gain insofar as the tabulations are not cluttered up with relatively insignificant units. Thus in effect, there is an implied fifth code for minor localities grouped into a "Rest of" code. If it is necessary to identify separately such minor localities, the code can easily be extended into a five digit code, or even a six digit code. All significant localities for which it has been found useful to establish a separate code are identified. For example, all localities for which there are manufacturing statistics are included and are indicated with an asterisk in front of the name in the code.

D. General Description of Procedures in Establishing the D.D.P. Zoning System

14. Reconciliation of Six Approaches.

The zoning system used in the Department of Defence Production is given in Sect. III which is an excerpt from the Departmental Statistical Manuals. Before describing each of the 60 individual zones and the reason for their institution as such, it was considered useful to trace the specific procedures involved and to describe the resulting general features of the system.

The basic problem was to reconcile, organize and simplify six main area approaches, and to harness the data coming through them.

(a) Political and Statistical Units

The most fundamental source of geographic data is of course by the D.B.S. geographic units, that is Counties, Territorial Districts, and Census Districts. There are 244 such political-statistical units. There are important further subdivisions for, in addition, data is published for major individual localities and for combinations known as metropolitan or "Greater City" areas.

The general principles used in setting up the D.B.S. census units were as follows:

i. In those provinces where permanent administrative areas called Counties or Territorial Districts had been set up, these were adopted as the census unit.

ii. In Western Canada and Newfoundland, where counties did not exist, census districts were established and an attempt was made to set up relatively homogeneous areas. For example, the Prairie Provinces were more or less divided into a grid pattern except for some minor deviations. Topographic factors such as rivers and mountain ranges which would impede communication and hence census taking, were also considered. Toporgraphic feature were actually a dominant consideration in British Columbia. In each case, the provinces were consulted as to whether the division was reasonable, and agreement was reached on what was hoped to be permanent census units. However, it would seem that no set rules were followed, and later developments or new perspectives may have created some dissatisfaction with the census district systems. In the process of zoning, it has been found that some of the census districts are awkward units to handle. For example, the Director of the Regional Development Division of British Columbia suggested that CD2a (the Revelstoke area) should belong with CD3. Furthermore, it has been suggested that CD6d,e,and f should be combined with CD8d and c to comprise a new census district coinciding with the Cariboo area along the PGE line.

It has been suggested by Professor Brouillette ("Canadian Regions", p. 212) that "the county system is archaic and has little real geographical significance." On the other hand, in the same book (p. 318), Putnam says that "the administrative divisions agree fairly well with the zones of influence of these centres." Because the census units were set up to last, and are not likely to be radically changed, the D.D.P. Zoning System took them as the basic statistical unit, and any anomalies were taken care of through a system of "district" subzones.

(b) The N.E.S. Local Office Units.

A very important source of current data on area developments is that coming through the Department of Labour's National Employment Service Local Offices, and published monthly in the Labour Gazette. The "unemployment" figures (as indicated by the ratio of unplaced applicants to paid workers) are a good barometer of the current levels of economic activity in the individual areas. There are 185 such offices in existence and 3 more were to be set up during the coming period. The problem is that the Local Office areas are in most cases not coterminous with the D.B.S. statistical units. They are nevertheless a very vital and meaningful type of unit because of the principles used in setting them up.

In general, the offices were spotted to service the largest number of employers and workers, and thus they represented major labour market areas. The general criteria for locating them in specific areas were:

(a) Population
(b) Nature of the economy of the area
(c) Relative autonomy of the area and the presence of an economic centre
(d) Transportation accessibility to this centre

This procedure involved what might be called a shakedown process. If the number of postal claimants serviced by existing offices increased to a major proportion of the volume of business handled due to lack of easy and direct access to this office, amoeba-like, a new local office area was split off. This represents what might be called a pragmatic administrative approach, and has an important meaning for the study of Canadian areas. The zonal system was so devised that this pragmatic and functional approach was the basis of the subzones set up, although the approach was standardized and still-existing anomalies were recognized.

The classification of Local Offices according to their administrative load, and of labour market areas by their population and basic industrial structure, has also been utilized in Para. 22.

(c) Production Units

The third approach that was reckoned with was that of agencies interested in particular types of production: various Government departments such as Defence Production, Agriculture, Fisheries, etc.; and various industries which are interested in the distribution of specific factors of production.

(d) Marketing Units

The fourth major approach to be reconciled was that of business from the marketing angle. Business enterprises are interested in market areas which can be reached through certain marketing centres and their subordinate distribution systems. Furthermore, they are also interested in criteria of their marketing success within such areas and therefore are anxious to know the potential market in comparison with their actual marketing performance. Any zoning system to be widely used must take this business interest into consideration, and such was done in the present instance with the creation of a complicated but orderly system of market areas.

(e) "Geographic" Units

The fifth approach that had to be considered was that of the geographers who have set up area systems which are also meaningful because they tend to relate activity to the physical base, which is always a necessary consideration. One such set of "geographic regions" has been established recently by a group of geographers, Professors Putnam, Brouillette, Kerr and Robinson, in the joint book "Canadian Regions". An economic zoning system must be able to justify itself in relation to such schemes. The present scheme has been able to do this to the extent that, for example, Professor Brouillette has co-operated in the re-delination of the economic zones for the Province of Quebec, as incorporated in the D.D.P. zoning system, and which it is understood will be used widely.

Professor Brouillette has produced two versions of zoning for Quebec - a physical map and an economic map - and shows the difficulty of dividing an occupied country to satisfy both the geographers and the economists. Yet the following quotation(1) shows the agreement reached with the D.D.P. system.

"The main criticism which can be made of the partition of the Province of Quebec into its geographic regions is that it can hardly be used from an economic point of view. The economists who divide a country into regions think less of the physical features of this country than of its commercial relations, of the trends of the movements of goods and people between the regions and the large centres commanding them. In addition, they base their statistical compilations on the large units of the census because several phenomena which are of interest to them are not accounted for on a municipal basis.

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(1) B. Brouillette, University of Montreal - "The Geographical and Economic Regions of the Province of Quebec", paper presented before the Canadian Association of Geographers, London, Ont. May 29th 1953.

"Officials of the Federal Department of Defence Production have divided Canada into its economic regions. I have taken over their project as regards the Province of Quebec and have endeavoured to reconcile...... their regions with mine.

"They have divided the province into ten regions without ever subdividing a municipal county, the basis of the census. Such a strict ruling cannot be considered by the geographers. But the economists have also drawn sub-divisions in each of their large regions. By using these subdivisions, we will find ground for understanding. In the attached map I am accepting the ten major economic regions of the officials of Ottawa, but I am submitting them sub-divisions which differ from theirs. If we come to an understanding about the limits of the latter, we shall be able, by adding them one to the other, to find our geographical regions almost intact."

The remainder of the noted article describes in detail the process of reconciliation between our zonal model of Quebec and Professor Brouillette's model.

(f) Economic Units

The sixth requirement was to satisfy the various needs of economists interested in systematizing data in order to be able to describe economic development, analyse current conditions, and attempt to forecast regional economic conditions. The end uses outlined in Paragraph 10 would perhaps carry less weight than practical administrative requirements, but if no conflict is involved, there is no reason why these more theoretical requirements could not be satisfied.

15. Principles of Compromise

It would thus seem necessary to find some common base between these various approaches, searching for geographic units having physiographic, demographic, agricultural, industrial and social characteristics which would differentiate area units from adjacent areas. We have at various times been interested in one or more of these approaches and as emphasis has shifted, the zoning system was changed to meet the new requirements. The more these criteria have to be considered together, the more meaningful and dynamic this system becomes. Although it is true that a specific purpose and approach can yield a specific zoning system, useful as a means to the intended end, it is also true that a consideration of many approaches taken together can result in a very useful general system, perhaps inferior for some very specialized uses, but superior for most requirements.

The various approaches do not always conflict, and where they are complementary the resultant system is superior in that it permits the correlation of diverse data. Where the approaches are in conflict, a system of compromise has had to be worked out to enable the various individual approaches to be maintained, while at the same time achieving the general result.

The main principles adopted for the purpose of compromising the various approaches are outlined in the following paragraphs.

16. Census Units as Basic Statistical Units

The D.B.S. census units were treated as the basic statistical unit, because they are the main continuing and stable source of data. They can be split up or aggregated according to other criteria at the subzonal or locality levels, but at the zonal level they must consist of a block of intact census units. Thus the individual census units must be regarded as neutral in themselves even though it is recognized that in many cases they have some administrative and other meaning because they generally have been built around certain centres.

17. Standardization of Local Office Units

The N.E.S. Local Office areas are less stable units insofar as they may be split up as new needs arise. Boundaries may change as transportation facilities improve and the accessibility factor consequently changes. However, as pointed out previously, these areas are very significant phenomena and the subzone system was built around the Local Office area system. The Local Office areas were "standardized", i.e. fixed in terms of areas directly related to the census units. This was considered feasible because in most cases where the Local Office area did not exactly coincide with a census unit or a combination of such units, the marginal areas of misfit could be neglected because they are generally agricultural areas which are stable employment-wise and therefore do not contribute significantly to the employment fluctuations of a Local Office area, and hence to the unemployment figures for that Local Office. There are minor exceptions to this principle of peripheral cancellation. However, it has been found that in aggregating L.O. subzones to form zones, the aggregations of Local Office areas coincide very closely with zones delineated in terms of census unit blocs, and therefore that the principle of peripheral cancellation can be applied without qualms for the subzones because any discrepancy is eliminated at the zonal level, where the sum of L.O. areas is approximately equal to the sum of census units.

There are, however, some anomalies within the L.O. system. In the first place it does not claim to have complete coverage on a theoretically desirable basis, due to the costs of further extension, and it is still evolving. However, by carrying the principles used in setting up the Local Offices through to a logical conclusion, it is possible to set up separate subzones (called "districts") which could theoretically be Local Office areas in themselves according to the criteria used (e.g. Labrador District). In the second place, the communications criteria used for a Local Office approach may clash with communications criteria involved in other approaches such as marketing (e.g. for the Melfort District, connections with Saskatoon are stronger than those with Yorkton). On the other hand some of these anomalies are merely logical problems arising from conflict between the Local Office approach and the census unit approach (e.g. a county may be split evenly between the adjacent Local Office areas, so that it may be best to treat it separately as a marginal district).

All the various adjustments between the standardized Local Office approach and other approaches are made at the subzonal level, by extending the 188 Local Office areas (including the 3 being created in 1953) into 237 subzones through the use of 49 marginal "districts". These 237 subzones are the basic building blocks of the zoning system. Of course, they in turn are composed of smaller areas or localities (see 4-digit coding scheme), but these areas are functionally integrated into the subzones.

The principles used in "standardizing" the Local Office units into subzones are outlined in Paragraphs 18 and 19 on the SF and PM principles of subzoning.

18. SF Principles of Subzoning

The next problem is that of this further refinement of the standardized Local Office areas approach to create the subzones and the methods involved in this process. The principles adopted were derived from a combination of the structural and functional approaches.

Most zoning approaches are of a structural nature. That is, the characteristics of the various census units in terms of population, patterns of occupation and production, etc. are compared, and where they are similar, combinations are made to produce relatively homogeneous units. The zoning attempt of 1947 was fundamentally of this nature, as is the State Economic Area approach in the United States. Most geographic approaches are of this type due to emphasis on physical structural characteristics, as are those specialized zoning systems set up on the basis of interest in only one industry, such as the agricultural zones.

On the other hand, there is the functional approach as typified by marketing analysis. Here we are less interested in the fact that area A is structurally different from area B than we are in the fact that this is so because area A performs certain functions in relation to areaB, such as being its wholesale or even retail centre, or vice versa, being its market garden or milk-shed or some other primary industry relation. The theoretical economists

have favoured this dynamic functional approach rather than the static structural approach. In Alfred Weber's study of the 3 regional determinants of the location of industry, namely transportation costs, labour costs and agglomeration advantages, the emphasis was not so much on the study of these factors within an area as in the relative position of these factors of production as between various areas because he was interested in the dynamics of the factors underlying the movements of modern industry rather than in its existing structure. Losch's approach was more systematically functional for he concentrated largely on the factors determining the existence of an integrated trading area.

Ideally it should be possible to combine the two approaches, that is, if we had homogeneous producing areas with centres to which the produce flowed for sale and export out of the area, and in turn to which goods flowed in from the outside for distribution to the producers of the area. In that case we could easily describe these areas as true economic units or zones both from the viewpoint of production economics and marketing economics, for there would be an easily traceable identity between the income produced in the area and the income spent.

In real life, this is fairly well true of many of the Local Office areas because they were chosen initially for such relationships to a hinterland, and it is still true of our standardized Local Office subzones because the peripheral areas which may have been affected by the standardization procedure are not major factors in the determination of zonal income and expenditures. The "districts" are more awkward to handle because they may have a production pattern relating them to one subzone and a marketing pattern relating them to another. For example, the Patricia District of North Western Ontario is part of the Lakehead-North Western Ontario Zone, yet it has been largely serviced by air from Winnipeg, and is actually part of the Winnipeg Local Office area for that reason. The position of this district is changing with the construction of roads from the south, but it still must be treated as a marginal district for separate analytical treatment.

19. PM Principles in Subzoning

The production and marketing (referred to as PM) cross-classification principles used in establishing subzones were as follows:

i. Where a Local Office area was small and homogeneous, it was automatically treated as a PM unit and subzoned as such. This principle applied to most Local Office centres and their areas where these were clearly defined in terms of census units (e.g. Brantford Local Office covering Brant County).

ii. Where it was evident that a Local Office area was more extensive (though still somewhat integrated or at least linked by certain factors), or not homogeneous in structure, that area was split up into the Local Office area proper (a somewhat reduced version of the administrative area) and a district for separate production analysis, although the link was maintained for marketing analysis. For example, the Notre Dame Bay District was subzoned separately from the Grand Falls Subzone even though it falls mainly within the latter Local Office definition and is linked (although somewhat weakly) by marketing ties, because of production dissimilarities.

iii. Where it was evident that a Local Office area definition was a weak and somewhat arbitrary carving up of territory due to weak marketing and other functional links of the marginal district to the Local Office centre, these districts were again split off from the administrative Local Office for separate marketing analysis even though productionwise they may have a similar structure. For example, the South Coast District of Newfoundland was subzoned separately from the St. John's area, and the Melfort District was subzoned separately from the Yorkton area.

iv. Where both production and marketing factors point to a clean break within the existing Local Office definition, a district is automatically created as a separate PM unit, and in fact may even be set up as a separate zone - for example, the Labrador Zone.

v. The predominance of functional ties in the definition at the subzone level is obvious because the Local Office areas are, by definition, functional to begin with. In market analysis, stress can be placed on either the subzones or the zones depending on whether interest is focussed on the 60 fairly broad zonal aggregations or on the 237 more minute subzone areas.

20. Principles of the Zoning Procedure

The extension of this SF-PM approach in the further combination of subzones into zones is logical, though there is greater emphasis on structural factors. The reasons for this different stress are as follows:

i. Beyond the Local Office areas, functional ties are less precise. For example, the wholesale marketing areas of Toronto and Montreal, Winnipeg and Vancouver are very large and highly competitive. Furthermore, subzones tend to have functional relationships with a large number of other subzones. A flour milling centre such as Kenora, Ontario may depend not only upon a large number of wheat growing zones for its raw material, but also upon a large number of zones for its market. These inter-zonal relationships have been discovered to be very significant in D.D.P.'s tracing of the flow of defence subcontracting work.

However, where there is a relative concentration of higher functional ties between a natural zonal centre and the subzones of its hinterland, such functional ties are recognized as a zoning criterion. This is particularly true of those zones naturally dominated by a metropolitan area of over 50,000 population. All such cases are clearly identified in the zoning scheme by a hyphenated title giving the metropolitan area in conjunction with the zone it serves - e.g. "Regina-Southeast Plains Zone."

Toronto and Montreal, because of the national economic functions they perform, are maintained as separate metropolitan zones and only their immediate hinterland subzones are included.

ii. One of the requirements of the zoning system is its value for extensive use. Though the D.D.P. and other similar systems might find the functional subzone system the most useful approach, other users with structural approaches such as the agricultural economists and physical geographers would have a tendency to set up structural subzones based on homogeneity (e.g. soil subzones, or the resulting types of farming subzones). This approach was recognized and it was understood to be a fundamental requirement that at some point an aggregation of such structural subzones must equal the zonal aggregation of functional subzones.

If the need for this coincidence is never taken into consideration, then the narrow structural approach must operate without proper statistics except insofar as these may be created by special surveys. One of the biggest problems in the recent attempt to define geographic regions, namely Putnam's "Canadian Regions", is that the authors cannot present economic statistics for the regions as they define them and must therefore always estimate. To take the most outstanding example, the geographers break Canada up into eight major regions, two of which are Northern and Southern Ontario. Since the boundary between these two is a very vague one, crossing somewhere between Parry Sound and Mattawa, and cutting across the 2 counties of Parry Sound and Nipissing, they cannot even present statistics for their main regions and must always switch to a straight Ontario figure, thereby ignoring their most fundamental division of the country (e.g. Chap. 23, p. 509 on). We contend that it is useless to set up economic regions or zones for which economic statistics cannot be obtained.

In order to attain coincidence with the structural approach at the zonal level, greater stress is therefore placed on structural factors in the aggregation of subzones to create zones, and the delimitation of the individual zone is made precise. It may be contended that some of the delimitations are somewhat arbitrary, but even natural regions often have very vague boundaries, so that a certain leeway exists within the context of which we can choose and follow a fixed census unit boundary line rather than leaving the boundary a vague and unmanageable one.

iii. In those cases lying outside the more easily determined zones with strong coincidences of functional and structural approaches (in particular the strongly metropolitan-dominated zones), zonal aggregations are made on a structural basis. The result is a number of multi-nuclear zones, each consisting of a chain of non-dominant Local Office areas. These are identified by the absence of a hyphenated metropolitan prefix and they have rather general, physically-determinable names.

Thus for example we have the Saguenay Valley/Lake St. John Zone, which is a string of 6 Local Office areas almost exactly coterminus with a natural region. The Gaspe Peninsula/South Shore Zone is a chain of 8 Local Office areas and 2 peripheral districts, the zonal aggregation of which is exactly coterminus with an aggregation of 3 separate natural-structural subzones: the Gaspe Peninsula, the South Shore of the Estuary Lowlands, and the South Shore Uplands. Another example is the Three Rivers-St. Maurice Valley Zone which is an aggregation of 3 functional Local Office subzones on the one hand, and 2 geographic subzones on the other: the Three Rivers Plain and the East-Central Laurentians.

The point is that we can obtain statistics for the functional subzones whereas the geographers cannot do so as readily for their structural subzones. Perhaps if economic statistics can ever be set up by D.B.S. on the basis of aggregations of municipalities rather than by counties and principal centres, we might undertake a refinement of the present zoning system which would include provision for better-delimited natural subdivisions of the present zones or subzones. In the meantime, the zonal system will at least provide a set of areas on which there is agreement and correlation of statistics.

21. Coding Order

It is necessary to discuss one other procedural principle, that being the coding order of the D.D.P. Geographic Code. As pointed out in Paragraphs 13, pp. 37 and 38, the codes were systematic; the digits representing the different levels of aggregation required, and the numbers of each digit representing a meaningful order according to spacial and size relations within the zonal units. This paragraph describes the procedures adopted to achieve this aim, particularly the problem of the sequence of the zones in the coding system.

i. The provinces (1st digit) are ordered according to the standard east-west system, except that the number 1 is reserved for a multi-unit combination of P.E.I. (10), Yukon (11), and North West Territories (12)(that is, to differentiate these 3 provinces and territories, it is necessary to sort on the 2nd digit as well).

ii. As far as the zones (1st 2 digits) are concerned, these are ordered according to a national zoning sequence. We have proceeded on the basis of the concept of a chain of communities stretching like a string of pearls across the country, fundamentally along the east-west axis with south to north excursions within each province where necessary. Since this order also happens to coincide to a large extent with the historical order of development of the various zones of this country, this numbering order takes on additional meaning. The result has proven to be a spacially meaningful and a conceptually useful framework.

When zoning is done on a solely provincial basis, there is a tendency to start with the provincial capital and to move away from it in various directions. Although this procedure may be satisfactory for those handling zonal data for one province, the variations in systems of numbering between provinces make it difficult for someone working on all Canadian zones. The D.D.P. zonal order represents a logical and systematic sequence which is easy to remember and which thus simplifies coding. For example, a provincial zoning approach would code the Toronto Zone as 50, and then there arises the question of whether the Zone to the east or to the west of Toronto is to be numbered 51. According to the national ordering system, there is no doubt but that Eastern Ontario, the most easterly zone and in closest proximity to the previously treated province, is to be numbered 50, followed by the Lake Ontario Zone as 51, the Toronto Metropolitan Zone as 52, the Hamilton-Niagara Zone 53, etc.

iii. The subzones are ordered in two ways. In the case of metropolitan-dominated zones, the code starts with the metropolis sub-zone and moves out to the hinterland subzones according to the general order. In the case of the remaining non-metropolitan zones, where there is not the same degree of dominance but rather there is a chain of smaller centres, the order followed is more strictly the general east-west, south-north order.

iv. The localities are ordered by size and adjacency. The first numbered locality within a subzone is coded:

1 - if it is a metropolitan city of over 50,000 population
2 - if it is a significant local Office centre of the 10,000 to 50,000 population category
3 - if it is a smaller Local Office centre, and
4 - if it is the centre of a district which does not have a Local Office within it

The second numbered locality within a subzone would rank according to its adjacency to the first locality and to its size. Thus, a suburb or group of suburbs of a metropolitan city proper would be numbered 2 (or more) following the 1 of the metropolitan city. On the other hand a distant primary industry locality, such as a mining town or an agricultural centre would be numbered 7 or 8.

With the limited set of 9 digits for the coding of localities within a subzone, only significant centres can be coded. Minor centres and rural populations are grouped under a "rest of county" or "rest of census district" category. This may be a failing on the one hand for the 9 numbers of the 4th digit do not permit as extensive coding of localities as does the D.B.S. Standard Geographical Code. On the other hand, for the analytical purposes which zoning must serve, this may be a source of strength for it prevents the analyst bogging down with the thousands of small towns or hamlets that exist. The one deviation from this rule of omitting small centres is that occasionally centres of areas producing significantly different types of items which must be considered in analyzing a subzone are included in the code even though they may be small, so that in the analytical process they may serve as a reminder of a certain type of output. Not all of the numbers are used in the present code so that there is room for insertion of other special localities as required. If there is no more room, additional localities may be treated under the "rest of census unit" category.

v. The code itself was set up for mechanical operations. The numbers in each digit range from 0 to 9. This is due to the ease of using 0 in various systems in use in The Department of Defence Production such as the Kwik-sort Card system or the I.B.M. system.

22. Classification of Sub-zones by Type of Population Density Configuration.

The sub-zones have also been classified from the viewpoint of their position as density configurations, this being taken into consideration in the zoning procedure. In the following table, the sub-zones are listed by zone in proper order, while also classifying them into one of five categories:

The 1st order sub-zones are small Local Office areas with a labour force of under 10,000, or districts with no centres presently considered as requiring a separate Local Office.

The 2nd order sub-zones are minor Local Office areas with a labour force of 10,000 to 25,000, whether principally of an agricultural or non-agricultural nature.

The 3rd order sub-zones are major agricultural areas, i.e. Local Office areas with a labour force of 25,000 to 75,000, but of which over forty percent are engaged in agriculture.

The 4th order sub-zones are major industrial areas, i.e. Local Office areas with a labour force of 25,000 to 75,000, but of which over sixty percent are engaged in non-agricultural industries.

The 5th order sub-zones are the metropolitan areas with a labour force of over 75,000.

In some cases more than one Local Office sub-zone is encompassed within the confines of the unit being classified. The following table, pages 47-49, can also serve as an index of the subzones.

Classification of Subzones by Density Configuration

Pro-vince & Zone	5th Order Subzones	4th Order Subzones	3rd Order Subzones	2nd Order Subzones	1st Order Subzones
NFLD 00	000 St.John's				001 District 002 District
01				010 Grand Falls	011 District
02		020 Cornerbrook			021 District
03					030 District
PEI 10			100 Charlottetown	101 Summerside	
N.S 20		200 Sydney			201 District 202 Inverness
21		211 New Glasgow			210 District 212 Amherst 213 Springhill
				214 Truro	215 District
22		220 Halifax		221 Bridgewater 223 Yarmouth	222 Liverpool
23			230 Kentville		
N.B. 30		300 Moncton			
31		310 Saint John			311 Sussex 312 Minto 313 St.Stephen's
32				320 Fredericton 321 Woodstock 322 Edmundston	
33				331 Newcastle 332 Bathurst 333 Campbellton	330 District
P.Q. 40					400 Seven Islands 401 Forestville 402 District 403 District
41				411 Gaspe	410 District 412 Chandler 413 New Richmond 414 Causapscal
			417 Riviere du Loup	416 Rimouski 418 Montmagny	415 Matane 419 District
42		421 Chicoutimi) 422 Jonquiere)		420 Port Alfred 423 St.Joseph D' Alma	424 Roberval 425 Dolbeau
43	430 Quebec City) 431 Levis)			432 La Malbaie	
44		440 Three Rivers 441 Shawinigan Falls			442 La Tuque
45		450 Sherbrooke	453 Thetford - Mines	452 St.George E. 455 Victoriaville 456 Drummondville	451 Megantic 454 Asbestos
		457 Granby) 458 Farnham)			

Province & Zone	5th Order Subzones	4th Order Subzones	3rd Order Subzones	2nd Order Subzones	1st Order Subzones
46				460 Sorel	
		461 Ste. Hyacinthe		462 St.Jean	
		463 Beauharnois)			
		464 Valleyfield)	465 Joliette	466 St.Therese)	
				466 St.Jerome)	
				466 St. Agathe)	468 Mont Laurier
				467 Lachute	469 District
47	470 Montreal)				
	471 St.Anne de Bellevue)				
48		480 Hull		482 Buckingham	481 Maniwaki
49		490 Val d'Or)			
		491 Rouyn)			
Ont. 50	500 Ottawa			501 Pembroke	502 Renfrew - Arnprior
					503 Carleton Place -Perth-Smith Falls
					504 Hawkesbury
		505 Cornwall			506 Prescott
					507 Brockville
					508 Gananoque
51		510 Kingston			511 Napanee
				513 Belleville)	512 Picton
				514 Trenton)	515 Cobourg
		517 Peterborough			516 District
				519 Lindsay	518 District
52	520 Greater Toronto (Toronto_ New Toronto-Weston)	522 Oshawa			521 Newmarket
				524 Brampton	523 Oakville
53	530 Hamilton	531 St.Catharines			
		532 Welland		534 Fort Erie	
		533 Niagara Falls		535 Port Colborne	536 District
54		540 Brantford		541 Galt	
		542 Kitchener		544 Stratford	
		543 Guelph		545 Listowel	
55		550 London		551 Ingersoll	
				552 Woodstock	
				553 Simcoe	
				554 St. Thomas	
56		560 Windsor	562 Chatham	561 Leamington	563 Wallaceburg
		564 Sarnia			
57				570 Goderich	
				571 Walkerton	
				572 Owen Sound	573 Collingwood
			574 Barrie		575 Orillia
				577 Bracebridge	576 Midland
					578 Parry Sound
					579 District
58		582 Sudbury		580 North Bay	581 Sturgeon Falls
				583 Sault Ste. Marie	
		584 Kirkland Lake)			586 Kapuskasing
		585 Timmins)			
59		590 Fort William)		593 Sioux Lookout	592 Fort Francis
		591 Port Arthur)		594 Kenora	595 District
Man 60	600 Winnipeg			601 Portage la Prairie	602 District
					603 District

Province & Zone	5th Order Subzones	4th Order Subzones	3rd Order Subzones	2nd Order Subzones	1st Order Subzones
Man. 61			610 Brandon		
62				620 Dauphin	
63					630 The Pas 631 Flin Flon 632 District 633 District
Sask 70			700 Regina	701 Weyburn	702 Estevan 703 District
71			710 Moose Jaw	711 Swift Current	
72			720 Saskatoon		721 District
73			730 Yorkton 732 Prince Albert 733 N.Battleford		731 District
74					740 District
Alta. 80				800 Medicine Hat	801 District
81			810 Lethbridge		811 Blairmore
82	820 Calgary			821 Drumheller	822 District
83	830 Edmonton		831 Red Deer		832 District 833 District
84					840 District 841 Edson
85					850 District
86					860 District
B.C. 90				900 Cranbrook	
91				910 Trail) 911 Nelson)	912 District
92				920 Vernon) 921 Kelowna) 922 Penticton)	923 District 924 Princeton
93				930 Kamloops	931 District 932 District
94	940 Vancouver) 941 New Westminster)			943 Chilliwack	942 Mission
95		950 Victoria		951 Duncan) 952 Nanaimo) 953 Port Alberni) 954 Courtenay)	955 District
96				961 Prince Rupert	960 District 962 District 963 District
97				970 Prince George	971 District
98				980 Dawson Creek	
Yukon 11					110 Whitehorse
NWT. 12					120 Yellowknife 121 Fort Norman 122 District 123 District 124 District 125 District 126 District

E. ANALYTICAL DESCRIPTIONS OF THE INDIVIDUAL ZONES.

23. The following section attempts to briefly describe each of the 60 zones in terms of the SFPM formula as described previously; that is, a brief notation is made on each of the principal Structural, Functional, Production and Marketing factors that have caused us to differentiate these zones.

00 - St. John's-Southeastern Newfoundland Zone
- S - A combination of two similar "physiographic regions"; the Avalon Peninsula and the Southern and Northeastern Coastal region.
- F - Coastal shipping, and peninsular highways. The dominance of St. John's as a functional 5th-order centre, commercial and administrative, serving coastal settlements. Single Local Office at St.John's. Three subzones are involved, the Southern Coast District and the Bonavista Bay District being somewhat isolated.
- P - Secondary industries in St.John's, mining of iron ore at Wabana, otherwise a fishing hinterland, both salt fish and fresh and fresh filleted fish, with the latter becoming dominant in this area because of year-round open water.
- M - Dominance of St. John's as a marketing centre.

01 - Central Newfoundland Zone
- S - Central Plateau "physiographic region".
- F - 2nd-order centre, with Local Office at Grand Falls. The Notre Dame Bay District is still somewhat functionally related to St. John's particularly in the N.E. fishing sector.
- P - Pulp and Paper, Forestry, and Mining, and the salt fishery of Notre Dame Bay District. Much of the timber for the Pulp and Paper operations comes from the Notre Dame Bay District, thus helping to tie that District into this zone. The port of Botwood also is such a tying factor.
- M - Grand Falls is becoming increasingly the marketing centre for this area although the Notre Dame Bay District has coastal contact with St.John's. The Trans-Canada Highway will help to integrate the area more thoroughly around Grand Falls as a centre.

02 - Western Newfoundland Zone
- S - Western Highlands "physiographic region".
- F - 4th-order centre with Local Office at Corner Brook. The Northern Peninsula is being increasingly integrated to Corner Brook, although French Shore fishing ties still make it preferable to treat it as a separate District.
- P - Pulp and Paper, Forestry and some Fishing, Mining and Agriculture.
- M - Corner Brook as marketing centre, along railway and coastwise connections.

03 - Labrador Zone
- S - Part of the Canadian Shield, separated from the rest of Newfoundland province, an obvious geographic and political zone.
- F - A district with no Local Office (inadequately tied to St.John's L.O.)and only isolated non-dominant 1st-order centres.
- P - A primary industry area with fishery,furs, new iron ore finds, and possible forestry operations in the future.
- M - Scattered coastal trading posts supplied from St.John's,plus new lines of supply from Seven Islands and by air from Montreal.

10 - Prince Edward Island Zone
- S - Separate spacial entity and a homogeneous "geographic region".
- F - A functional unit revolving around 2 Local Office centres, Charlottetown(a 3rd-order centre)and Summerside(a 2nd-order centre).
- P - Primary industries of agriculture and fishing dominant.
- M - A natural marketing unit with one principal line of supply, by ferry.

20 - Sydney-Cape Breton Island Zone
- S - Separate spacial entity, and a "geographic region"
- F - A functional unit transportation-wise, historically and sociologically, with Sydney as a 4th-order functional centre with a Local Office, and another Local Office at Inverness,a 1st-order centre.
- P - Manufacturing of iron and steel most significant, and coal mining, agriculture and fishing also important.
- M - A natural marketing unit due to the Canso bottleneck.

21 - Northern Nova Scotia Zone
- S - Comprises most of the North Shore Lowlands of Nova Scotia "physiographic region".
- F - New Glasgow a 4th-order centre, and a chain of smaller Local Offices at Truro (2nd-order centre), Amherst, Springhill and two other 1st-order districts. Transportation tie-in around Truro.
- P - Manufacturing (steel products and textiles) significant, with mining (coal, salt, gypsum), mixed agriculture, and fishing. Hants County is included in this zone because its agriculture and mining activities are more closely related to the rest of this zone than to the Annapolis Valley.
- M - These centres may be taken as a marketing chain. Guysborough County, though topographically part of the South Shore "physiographic region," is included in this zone for marketing reasons.

22 - Halifax - South Shore Zone
- S - Most of the South Shore Nova Scotia "physiographic region".
- F - Halifax important as a functional 4th-order centre although the other Local Offices are somewhat independent, with 2nd-order centres at Bridgewater and Yarmouth, and a 1st-order centre at Liverpool.
- P - Manufacturing and fishing important, with forestry minor and poor agriculture.
- M - Halifax is the marketing centre though not completely dominant. It also serves as a major national port.

23 - Annapolis Valley Zone
- S - Annapolis Lowlands, a "physiographic region".
- F - Single Local Office at Kentville, a 3rd-order centre.
- P - Specialized export agriculture (fruit, etc).
- M - A natural marketing unit.

30 - Moncton - Maritime Central Zone
- S - Part of the Southern New Brunswick "geographic region".
- F - Single Local Office at Moncton, a 4th-order centre which is a dominant railroad centre performing distributing functions for the Maritimes.
- P - Services, manufacturing, agriculture and fishing.
- M - A wholesale marketing centre for a wide area. This zone could be structurally tied to the Southern N.B. Zone, but the marketing functions favour separate treatment.

31 - Saint John - Southern New Brunswick Zone
- S - Most of the Southern New Brunswick "geographic region".
- F - Saint John as a dominant 4th-order functional centre with a Local Office,and subsidiary 1st-order centres with Local Offices at Sussex, Minto and St. Stephen's.
- P - A diversified economy, with manufacturing, general agriculture, fishing (particularly in Charlotte County), and coal mining.
- M - Saint John as the marketing centre and a major national port.

32 - Saint John Valley Zone
- S - Saint John Valley "geographic region".
- F - Saint John river routes for railway and highway transportation. Fredericton as the largest and most dominant 2nd-order centre, but with other 2nd-order centres with Local Offices at Woodstock and Edmundston.
- P - Specialized agriculture, lumbering, and manufacturing (pulp and paper, woodworking, textiles).
- M - A marketing chain with Fredericton as an important link.

33 - Northeastern New Brunswick Zone

S - A combination of two "physiographic regions", N.B. Highlands and Lowlands.

F - A string of smaller 2nd-order Local Office centres at Newcastle, Bathurst and Campbellton; with a marginal district of Kent County, which functionally could be tied in with Zone 30, but structurally belongs to Zone 33.

P - Manufacturing (pulp and paper, lumber), forestry, fishing and little agriculture.

M - Weak marketing links, could be regarded as a marketing chain.

40 - North Shore/New Quebec Zone

S - Part of Cdn. Shield and a fairly uniform "physiographic region".

F - A marginal primary producing area, isolated, with communications by boat, air and new rail line. Two 1st-order centres with Local Offices at Seven Islands and Forestville, and two other separate districts.

P - Primary products: forestry, iron ore mining, fishing and trapping.

M - A marginal marketing belt, characterized by difficult access.

41 - Gaspe Peninsula/South Shore Zone

S - A combination of 3 "geographic regions", Appalachian Highlands, South Shore Coastal Lowlands, and the Gaspe Peninsula.

F - A string of non-dominant Local Office centres with Riviere du Loup as a 3rd-order centre, Montmagny, Rimouski and Gaspe as 2nd-order centres, and Chandler, New Richmond, Causapscal, Matane and two districts as 1st-order areas.

P - A primary producing area with forestry, fishing and agriculture, plus tourism in Gaspe.

M - A chain of small marketing centres, mainly supplied from Quebec City.

42 - Saguenay Valley/Lake St.John Zone

S - Approximately equal to the "geographic region" of the Lake St.John basin, although possible with 2 geographic subzones, the Chicoutimi-Saguenay Belt and the Lake St.John Basin.

F - A string of Local Office areas, with Chicoutimi-Jonquiere as a 4th-order centre, Port Alfred and St.Joseph D'Alma as 2nd-order centres, and Roberval and Dolbeau as 1st-order centres.

P - Manufacturing (aluminum, and pulp and paper), forestry and agriculture.

M - A marketing unit supplied in the main from Quebec City.

43 - Quebec Metropolitan-Eastern Laurentians Zone

S - A combination of two "geographic regions", the Quebec Plains and the Eastern Laurentians.

F - Greater Quebec City (including Levis) is a functionally dominant 5th-order centre (two Local Offices), with La Malbaie a subsidiary 2nd-order L.O. centre.

P - Manufacturing (pulp and paper, shipbuilding and small industries), tourism and agriculture.

M - Quebec City is the dominant marketing centre for Eastern Quebec, and a national shipping port.

44 - Three Rivers-St. Maurice Valley Zone

S - A combination of 2 "geographic regions", the Three Rivers Plain and the East-Central Laurentians.

F - Three Rivers and Shawinigan Falls as 4th-order functional centres, and La Tuque a 1st-order centre, with a L.O. at each centre.

P - Manufacturing (pulp and paper, chemicals and textiles), forestry and some agriculture.

M - Three Rivers as the key marketing centre.

45 - Sherbrooke-Eastern Townships Zone

S - Approximately equal to the Lower Quebec Appalachian "geographic region", consisting of the Piedmont of the South Shore and the Interior Plateaux.

F - Recognized as a functional unit despite absence of complete dominance by a zonal centre. Sherbrooke is a 4th-order centre as is the Granby-Farnham area, with Thetford Mines a 3rd-order centre, St.George Est, Victoriaville and Drummondville as 2nd-order centres, and Megantic and Asbestos 1st-order centres. All of these centres have Local Offices

P - Manufacturing (textiles dominant) agriculture and mining (especially asbestos).

M - The marketing pattern is tri-focal with Sherbrooke dominant only within its fairly immediate area, Montreal impinging on the West and North sides, and Quebec City exerting its influence in the North-Eastern portion.

46 - Montreal Plain/Laurentian Zone

S - Combination of the Montreal Plain and the West-Central Laurentians "geographic regions" with the exclusion of the Montreal Metropolitan zone lying within it.

F - A constellation of smaller L.O. centres surrounding Montreal, with close functional ties to that centre. 4th-order centres at Ste.Hyacinthe and Beauharnois-Valleyfield, 3rd-order centre at Joliette, 2nd-order centres at Sorel, St.Jean, Ste.Therese, St. Jerome, Ste.Agathe and Lachute, and 1st-order centres at Mont Laurier and the Greenbelt District.

P - Manufacturing (varied), agriculture and tourism.

M - Strong marketing ties to Montreal.

47 - Montreal - Metropolitan Zone

S - The counties containing portions of the Montreal Metropolitan area as defined by D.B.S.,extracted out of the Montreal Plains.

F - A strong 5th-order centre with national functions. These warrant separate analysis for this zone, independently of its environs. Two L.O's, one for Montreal itself (with sub-offices) and one at Ste. Anne de Bellevue.

P - Very extensive and varied manufacturing.

M - A dominant wholesale and retail centre.

48 - Hull-Western Laurentians Zone

S - Approximately equal to the Western Laurentians "geographic region", plus the narrow riverside Plain.

F - Functional relations down to and along the Ottawa River. Hull is a 4th-order centre, Buckingham a 2nd-order and Maniwaki a 1st-order centre,each with a L.O.

P - Manufacturing (pulp and paper), forestry and marginal agriculture.

M - Hull is the dominant marketing centre.

49 - Western Quebec Zone

S - A geographic region consisting of the Western part of the Shield in Quebec.

F - A string of mining communities, with Rouyn and Val d'Or as 4th-order Local Office areas.

P - Mining, some lumber.

M - Marginal marketing area with no dominant centre, being supplied from wholesale firms in Quebec City, Montreal and Toronto.

50 - Ottawa-Eastern Ontario Zone

S - A "geographic region"; the Eastern Ontario Lowlands is uniform topographically.

F - A constellation of Local Offices along 2 axes, the Ottawa River Valley and the St.Lawrence River Valley bordering on a common hinterland. Ottawa is a 5th-order centre, Cornwall a 4th-order, Pembroke a 2nd-order, and Renfrew,Arnprior,Carleton Place, Perth, Smith Falls, Hawkesbury,Prescott,Brockville and Gananoque of the 1st-order.

P - A dairy farming unit,with services in Ottawa and varied manufacturing(pulp and paper, textiles and some small industries) in the other centres.

M - Ottawa is the marketing centre although the fringes of the St.Lawrence string are marginal in this respect.

51 - Kingston/Peterborough-Lake Ontario Zone

S - Eastern section of the North Shore of Lake Ontario portion of the St.Lawrence Lowlands, with the Shield protruding diagonally across the norther part.

F - A string of Local Office centres between Kingston and Peterborough, two 4th-order centres. Belleville, Trenton and Lindsay are 2nd-order centres, while Napanee, Preston,Cobourg and two marginal districts are 1st-order areas. Haliburton County is included in this zone because its communications are through this area rather than with the structurally-related Georgian Bay counties.

P - Secondary industrial centres with agriculture(ranging from intensive fruit and vegetable canning and dairy farming to general farming and marginal operations) and with tourism also important in the Shield portion. Frontenac County is included in this zone because of production factors which ally it with this zone rather than with the Eastern Ontario Zone.

M - A chain of marketing centres falling within the Toronto Wholesale area.

52 - Toronto-Metropolitan Zone

S - Highly organized portion of the North Shore of Lake Ontario Plains.

F - A metropolitan area conurbation centred on Toronto, a 5th-order centre, with related manufacturing suburbs in an arc from Oshawa (a 4th-order centre)to Oakville (a 1st-order centre), and including Brampton (2nd-order) and Newmarket(1st-order). Local Offices are located in these areas and at Weston and New Toronto as well.

P - Very extensive and varied manufacturing with an agricultural hinterland of truck gardening, fruit growing and milk-shed activities. Ontario County is included in this Zone rather than with the Lake Ontario Zone because of the post-war growth of automobile manufacturing in this Zone at Toronto and Oakville, which leads to new ties with the zone and facilitates analysis of the zonal impact of automobile production trends.

M - Dominance of Toronto as a marketing centre, both wholesale and retail.

53 - Hamilton/St.Catharines-Niagara Zone

S - The Niagara Peninsula is a recognized "geographic region".

F - Hamilton is a 5th-order centre, St.Catharines, Welland and Niagara Falls are 4th-order, Fort Erie-Port Colborne 2nd-order, and there is a 1st-order satellite district. This is a traditional functional zone influenced by its position with respect to the United States, by the Welland Canal and by hydro-electric power at Niagara Falls. Wentworth County is included in this zone although some definitions of the Niagara area do not include Hamilton, because Hamilton is a functional centre for the area. Nelson Township of Halton County is also included in this zone because of very close relationship to Hamilton although the rest of the county lies in the Toronto orbit.

P - Manufacturing (heavy and diverse), and specialized agriculture (fruit and dairy).

M - Dominance of Hamilton as a marketing centre, although St. Catharines serves as an important marketing centre as well.

54 - Kitchener/Brantford-Grand Valley Zone

S - Eastern part of the Southwestern Ontario "geographic region".

F - A constellation of significant L.O. centres adjacent to the Toronto-Hamilton axis. Kitchener, Brantford and Guelph are 4th-order centres, Galt, Stratford and Listowel are 2nd-order centres.

P - Manufacturing is diversified; agriculturally it is an important part of the major metropolitan milk-shed.

M - These centres tend to be independent marketwise although they are all affected by the proximity of Toronto and Hamilton.

55 - London-Lake Erie Zone

S - Western Ontario Plains, the Central portion of the South-Western Ontario "geographic region".

F - London is a 4th-order zonal capital being dominant in finance, transportation and education. Ingersoll,Woodstock,Simcoe and St.Thomas are 2nd-order satellite centres with Local Offices.

P - Manufacturing is diversified though tending to be heavy; there is intensive agriculture (tobacco, dairying and fruit);and there is fishing in Lake Erie

M - London is the commercial centre.

56 - Windsor-Lake St.Clair Zone

S - The "Corn Belt" region, plus the mixed farming belt in Lambton; in other words the Southwestern portion of Southwestern Ontario "geographic region".

F - Dominant influence of lake-front sites and border proximity. Windsor and Sarnia are 4th-order centres, Chatham 3rd-order, Leamington 2nd-order, and Wallaceburg 1st-order centre.

P - Heavy manufacturing (autos,chemicals,petroleum,rubber etc.), and specialized agriculture(vegetables)with mixed farming in the north.

M - Windsor as dominant marketing centre although Sarnia and Chatham have local marketing roles.

57 - Lake Huron/Georgian Bay Zone

S - A combination of Western Ontario and Central Ontario Highlands "physiographic regions".

F - A constellation of minor lake-facing centres with associated activities. Barrie is a 3rd-order centre,Goderich, Walkerton, Owen Sound and Bracebridge are 2nd-order, and Collingwood,Orillia, Midland,Parry Sound and Manitoulin District are 1st-order areas.

P - Manufacturing (flour and feed, shipbuilding, foods), livestock and mixed agriculture, and tourism.

M - A string of minor marketing centres.

Special Note :

Manitoulin Island is considered to be part of this Zone because physiographically it is merely an extention of Bruce County, and because its 2 principal activities, livestock and tourism closely resemble the general pattern of this Zone. It does, however, have some ties with Zone 58, Little Current being the coal port for Sudbury, and therefore it is set up as a District Subzone.

58 - Northeastern Ontario Zone

S - The Eastern portion of the Canadian Shield in Ontario.

F - A constellation of mining and pulp and paper centres. Sudbury, Timmins and Kirkland Lake are 4th-order centres, North Bay and Sault Ste. Marie are 2nd-order, while Sturgeon Falls and Kapuskasing are 1st-order, each with a Local Office.

P - Mining (nickel, gold, copper, iron), manufacturing (steel, non-ferrous smelting, pulp and paper), forestry, and agriculture (clay belt).

M - North Bay is a dominant marketing centre, particularly for the Northern Districts, though Sudbury and Sault Ste. Marie perform this function for their immediate areas.

59 - Lakehead-Northwestern Ontario Zone

S - Western portion of the Shield in Ontario, separated from North Eastern Ontario by a fairly broad non-productive gap.

F - Functionally tied by transportation factors, including lake shipping. The Lakehead cities of Fort William and Port Arthur are 4th-order centres, Sioux Lookout and Kenora are 2nd-order, while Fort Francis and Patricia district are 1st-order. Each centre named is the location of a Local Office.

P - Manufacturing (flour, transportation equipment, pulp and paper), mining (iron and gold), forestry, trapping.

M - The Lakehead cities of Fort William-Port Arthur are the dominant marketing centre, although the western fringes are somewhat tied to Winnipeg.

60 - Winnipeg-Southeastern Manitoba Zone

S - This is a well-defined zone consisting mostly of the South Eastern Manitoba Lowlands "geographic region". CD 12 could go with Zone 62 on a structural basis, but other ties bring it into this zone.

F - The 5th-order metropolitan area of Winnipeg is functionally dominant as a communications, financial and educational centre. As a transportation focus for the Prairie Region, the Winnipeg area also performs many functions in relation to the whole Prairie Region. Portage La Prairie is a subsidiary 2nd-order L.O. centre, and there are 2 satellite 1st-order Districts.

P - Diversified manufacturing (meat, clothing, steel products), specialized agriculture(special crops and dairying, with mixed farming on the eastern and northern fringes, wheat on the western fringe), forestry and fishing.

M - Winnipeg is a great commercial centre with a two-way marketing flow, on behalf of a large part of the Prairie Region as well as its own zone.

61 - Manitoba Southwestern Plains Zone

S - A "geographic region" consisting of the drier Uplands.

F - Brandon has the Local Office and is a 3rd-order zonal centre.

P - Wheat farming is predominant, with some manufacturing of agricultural products.

M - Brandon is the marketing centre with the exception of the Eastern portion of CD 3 which is influenced by Winnipeg.

62 - Manitoba Parklands Zone
S - A "geographic region" labelled the Park Belt, a transition area from plains to forest; drier and colder.
F - Dauphin as a Local Office and 2nd-order zonal centre
P - A mixed farming zone, with minor related manufacturing, fishing and forestry activities.
M - No strong marketing pattern though Dauphin performs much of that function.

63 - Northern Manitoba Zone
S - A combination of 2 "physiographic regions"; the Manitoba Shield and the Manitoba Hudson Bay Lowlands.
F - Activity is focused along two railway lines, with intermittent non-adjacent activities served by both air and lake-boat. The Pas and Flin Flon are 1st-order L.O. Centres, and there are two other 1st order districts.
P - A primary area, with mining (including a smelter), fishing, forestry and trapping.
M - The pioneer southern fringe and air-serviced areas are tied to Winnipeg, otherwise marketing takes place along the two rail lines.

70 - Regina-Southeastern Plains Zone
S - Southern portion of the Mixed grass, Dark-brown-soil Prairie, plus the Ox-bow portion of the Black soil belt.
F - Regina is the dominant 3rd-order functional centre with a group of satellite Local Office Centres, such as Weyburn (2nd-order) and Estevan (1st-order) as well as a satellite district.
P - Wheat farming is dominant with mixed farming on the north eastern fringe, services and manufacturing (flour, oil refining)at Regina, and coal mining at Estevan.
M - Regina is the dominant trading centre. The Melville District (CD 5) was included in this zone because of marketing and communication ties with Regina, even though structurally it is part of the Black Soil Parklands belt.

71 - Saskatchewan Palliser Zone
S - Short grass, Brown soil prairie; this dry southwest belt is the Saskatchewan portion of the Palliser Triangle.
F - Moose Jaw is a 3rd-order entrepot, though Swift Current is also a 3rd-order zonal centre.
P - Agriculture varies from wheat in the northeast to livestock ranching in the southwest, with some manufacturing at Moose Jaw (flour and oil refining), and minor mining (clay).
M - Moose Jaw as entrepot, although marketing is bi-focal.

72 - Saskatoon-Central Plains Zone
S - Northern portion of the Mixed grass, Dark-brown soil prairie.
F - Saskatoon is a 3rd-order Local Office centre, performing other functions such as distribution and education.
P - Agriculture (wheat); manufacturing (mainly agricultural products).
M - Saskatoon is a dominant marketing centre, in fact its market influence stretches beyond the zone northwards into Zone 73.

73 - Saskatchewan Parklands Zone
S - Black soil, Aspen Grove, and Mixed woods "geographic region".
F - Trifocal series of marginal 3rd-order Local Office centres at Yorkton, Prince Albert and North Battleford.
P - Agriculture(grading from wheat along the Southern fringe to mixed farming and the pioneer area along the Northern fringe of this zone), with forestry potential along Northern fringe.
M - No dominant marketing centre for the entire zone, the influence of Saskatoon as a wholesale centre reaching out through this area.

74 - Northern Saskatchewan Zone
S - Saskatchewan portion of the Canadian Shield-Northern coniferous forest.
F - Functionally disjointed, a residual 1st-order district, with no Local Office of its own, being served by the 3 L.O. of Zone 73 to the South.
P - Primary industries of mining, fishing, trapping and forestry.
M - This zone has no marketing focus, though it is mainly served by air from Prince Albert.

80 - Alberta Palliser Zone

S - Alberta section of the Palliser triangle. Short grass, Brown soil Prairie, semi-arid.

F - Medicine Hat is a 2nd-order Local Office centre. The Northern Palliser District is marginal, not tied in too well functionally, but is retained for structural reasons.

P - Agriculture (livestock and ranching in natural areas, sugar beets and greenhouse culture in irrigated areas); manufacturing (flour and sugar, pottery and other clay products).

M - Medicine Hat is the principal marketing centre.

81 - Crowsnest Zone

S - A diversity of land forms ranging from mid-grass prairie to foothills to mountains.

F - The two principal centres are Lethbridge, a 3rd-order centre, and Blairmore, a 1st-order centre, both with Local Offices.

P - Mining (coal); agriculture(ranging from mixed farming and ranching to sugar beets in irrigated areas); manufacturing (sugar).

M - Structurally this zone could be combined with Zone 82 but the Lethbridge area is somewhat independent marketing-wise, and being the third city of Alberta warrants a separate zone of influence.

82 - Calgary-Foothills Zone

S - Diversity of land forms ranging from mid-grass prairie to foothills to mountains.

F - Close functional ties to Calgary as 5th-order centre, though Drumheller(a 2nd-order centre) has a separate Local Office and the High River District (a 1st-order district) is somewhat different structurally.

P - Manufacturing (agricultural products such as meat and flour, oil refining and chemical products); agriculture(livestock and mixed farming), and mining (coal and oil).

M - Calgary is a dominant wholesale marketing centre for Southern Alberta, as well as reaching into zone 90 of B.C.

83 - Edmonton-Parklands Zone

S - A rich farming belt ranging from the northern portion of the Alberta Prairie through the cultivated Parkland belt.

F - Functionally, this is a well defined zone featured by the dominance of Edmonton(a 5th-order centre)as a transportation, trade and service focus, although Red Deer (a 3rd-order centre) has a separate Local Office.

P - Agriculture (mixed farming); manufacturing (agricultural products and oil refining); mining (oil and coal), and forestry along the northern fringe of this zone.

M - Edmonton is the dominant marketing centre and also performs wholesale functions for all zones to the north.

84 - West Central Alberta Zone

S - Some farming land along the western fringe but predominantly forest area with mountain range on the western fringe. This structural factor has caused the area to be zoned separately.

F - Bifocal, resulting from two transportation accesses, the Jasper Line and the Red Deer Spur. There is no dominant centre, there being in effect two marginal 1st-order areas.

P - Mining (coal), forestry, some agriculture and recreation.

M - Local marketing, dominated by Edmonton and Red Deer.

85 - Peace River Zone

S - A "geographic region", an isolated extension of the Great Plains and Parkland belts.

F - Fundamentally isolated as well into a distinct region with growing 1st-order centres.

P - Agriculture (wheat and mixed farming); mining (oil and gas).

M - A distinct marketing unit, although tied to Edmonton wholesaling functions.

86 - Northern Alberta Zone

S - A "physiographic region", although the Canadian Shield intrudes along the eastern fringe.

F - A 1st-order marginal area,functionally unorganized apart from the railway to Fort McMurray

P - A marginal undeveloped area,with some activity in forestry,fishing, trapping but with vast oil possibilities in the Athabaska tar-sands area.

M - Dependent largely on Edmonton as its marketing centre.

90 - East Kootenay Zone

S - Eastern part of the "geographic region" of Southeastern British Columbia.

F - Functionally tied along the Kootenay Valley. There is some functional tie to Zone 91 because the Kimberley metals are smelted and refined at Trail, but this tie is off-set by other factors such as marketing patterns and its independent growth potential. Cranbrook is the 2nd-order Local Office centre.

P - Mining (lead, zinc, coal), forestry and tourism.

M - The considerable marketing influence of Calgary warrants zoning separately from Zone 91.

91 - West Kootenay Zone

S - Western part of the "geographic region" of Southeastern British Columbia.

F - A major mining area integrated around the smelting facilities in Trail, which is a 2nd-order L.O. centre, supplemented by 2nd-order L.O.facilities at Nelson. The 1st-order Revelstoke District is distinguished as a sub-zone because of difficulty of access, and if this sub-zone could be broken away from Census District No.2, it would be preferable to link it to Census District No.6, that is Zone 93.

P - Manufacturing (smelting, pulp and paper); mining (silver, tungsten), and forestry along the Arrow Lakes serving the new integrated facilities at Castlegar.

M - Trail is the principal marketing centre, though not too dominant.

92 - Okanagan Zone

S - Southern portion of the Fraser Platea "physiographic region".

F - A string of smaller 2nd-order L.O's at Vernon, Kelowna and Penticton, a 1st-order centre at Princeton,and a marginal district.

P - Specialized agriculture (fruit and vegetables in the irrigated portions along the lake and a few other favourable areas, ranching elsewhere due to the arid climate); mining (silver and copper).

M - There is no dominant marketing centre; each of the sub-zones may be taken as a separate marketing unit.

93 - South Central British Columbia Zone

S - Northern portion of the Fraser Plateau "physiographic region".

F - Although structurally and topographically this is a unit, functionally it is not, because the southern PGE District is tied along the PGE line. The Merritt area is also structurally and functionally more closely related to Zone 92, particularly Princeton. Therefore Kamloops is a 2nd-order centre, but there are two somewhat independent 1st-order districts tied in.

P - Agriculture (vegetables, livestock, dairy); mining (gold).

M - This is not an integrated marketing unit, though Kamloops is a partial centre.

94 - Vancouver-Lower Fraser Zone

S - A "geographic region", comprising the Coastal Trench Lowlands.

F - A fundamental unit tied to the 5th-order metropolitan centre of Vancouver, with a satellite 2nd-order centre at Chilliwack and 1st-order centres such as Mission. Local Offices are located in those centres, and at New Westminster in addition.

P - Manufacturing (varied, but especially forestry and food products); agriculture (specialized dairy and fruit farming).

M - Vancouver is the dominant marketing centre not only for this zone but also for much of Zones 95 and 96.

95 - Victoria-Vancouver Island Zone

S - A separate "geographic region", though consisting of two physical areas, the coastal lowlands to the southeast and the coast mountains in the remainder of the Island.

F - A distinct functional unit with a regional personality. Victoria is the principal 4th-order centre, but the remaining 2nd-order centres at Duncan, Nanaimo, Port Alberni and Courtenay are somewhat independent, and particularly the 1st-order Northern District of the Island which is more closely related to Vancouver.

P - Manufacturing (lumber, pulp and paper, shipbuilding); mining (coal); fishing.

M - Victoria is the principal marketing centre, though not dominant. Vancouver performs a major wholesaling role for much of the Island.

96 - Northwestern British Columbia Zone

S - A coastal region, plus the N.W. Section of British Columbia.

F - This zone is not functionally integrated within itself, its coastal nature stressing the importance of shipping services tied in with Vancouver. Nevertheless, Prince Rupert is a 2nd-order centre, with varied relations to the three other 1st-order districts.

P - Manufacturing (pulp and paper, lumber and fishery products), forestry; and fishing.

M - Prince Rupert is an important marketing centre in its immediate area, but the rest of the zone is within the Vancouver marketing area.

97 - Nechako Plateau Zone

S - A "physiographic region", termed the Nechako Plateau.

F - Most activity is tied to the immediate environs of the two transportation accesses, the CNR Northern Line and the new PGE extension. Prince George is the only L.O. centre, a 2nd-order area, with a satellite 1st-order district.

P - Agriculture (ranching and marginal mixed farming); forestry.

M - The marketing pattern is not integrated, but rather scattered along the transportation lines.

98 - Northeastern British Columbia Zone

S - The Tramontane "physiographic region" is similar to and an extension of Zone 85, with the inclusion of the northeastern British Columbia sector within C.D.10.

F - Dawson Creek is a 2nd-order centre with a Local Office.

P - Agriculture (mixed farming); mining (oil and gas).

M - The marketing pattern is similar to that of Zone 85, the Alaska Highway providing the access. However, with the possible extension of the PGE into this area presently isolated from the rest of British Columbia, there might be some reorientation of the marketing pattern.

11 - Yukon Zone

S - A mountainous separate "physiographic region".

F - A 1st-order functional and political unit, with L.O. at Whitehorse.

P - Mining (gold, silver, lead) and trapping.

M - A separate isolated marketing unit.

12 - Northwest Territories Zone

S - A group of physiographic regions including both the Arctic Mainland and the Northern Islands.

F - This zone can be treated as a functional unit because of economic, political and population factors. There are two Local Offices in this zone, at Yellowknife and Fort Norman, but the whole area is a group of seven 1st-order units.

P - Mining (gold, radium,oil); fishing, and trapping.

M - A separate marketing unit because of distinct access problems.

SECTION III

THE D.D.P. CANADIAN GEOGRAPHIC CODE.

Outline	Page
Newfoundland	1
Prince Edward Island	2
Nova Scotia	2
New Brunswick	4
Quebec	6
Ontario	15
Manitoba	24
Saskatchewan	25
Alberta	27
British Columbia	29
Yukon and North West Territories	33

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* opposite a locality indicates that it is a significant manufacturing centre, for which manufacturing statistics are available

(*) indicates an important manufacturing centre for which manufacturing statistics are not published due to the rule that statistics cannot be published for cities and towns where there are less than three establishments, or where there are three or more establishments but one of these accounts for 75 percent or more of the total production, or two establishments account for 90 percent.

THE D.D.P. CANADIAN GEOGRAPHIC CODE

First 3 digit Province, Zone & Subzone Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
0	Province of Newfoundland				
00		St.John's-South eastern Newfoundland Zone			
000			St.John's (Avalon) CD 1		
				★ St. John's (City Proper)	0002
				Rest of St.John's Met. Area	0003
				Fort Pepperel	0003
				Torbay	0003
				Bell Island	0004
				Wabana	0004
				Conception Bay	0005
				Bay Roberts	0005
				★ Harbour Grace	0005
				★ Carbonear	0005
				East Trinity Bay	0006
				Ferryland Shore	0007
				St. Mary's Bay	0008
				East Placentia Bay	0009
				Placentia	0009
				Argentia-Marquise	0009
001			South Coast District (Burin-Burgeo)CD 2,3		
				West Placentia Bay	0014
				Burin	0014
				Marystown	0014
				St. Lawrence	0014
				East Fortune Bay	0015
				Fortune	0015
				Grand Bank	0015
				West Fortune Bay	0016
				Belleoram	0016
				Hermitage Bay	0017
				St. Alban's	0017
				Gaultois	0017
				Burgeo	0018
				Burgeo	0018
				Ramea	0018
				LaPoile	0019
				Port Aux Basques	0019
				Channel	0019
				Rose Blanche	0019
002			Bonavista Bay District (CD 7)		
				West Trinity Bay (Trinity N)	0024
				Bonavista	0026
				Rest of Bonavista Bay	0029
01		Central Newfoundland Zone			
010			Grand Falls (CD 6)		
				Grand Falls	0103
				Bishop's Falls	0104
				Windsor	0105
				Botwood	0106
				Buchans	0107
				Gander	0108
				Rest of CD 6	0109
011			Notre Dame Bay District (CD 8)		
				Twillingate	0114
				★ Fogo	0116
				Lewisporte	0117
				Rest of Notre Dame Bay	0118
				Green Bay Area	0119

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
02		Western Newfoundland Zone			
020			Corner Brook (CD 4, 5)		
				(☆) Corner Brook (incl. Cornerbrook East & Cornerbrook West)	0203
				Rest of Greater Corner Brook	0204
				Curling	0204
				Humbermouth	0204
				Summerside	0204
				Bay of Islands Fishing Area	0205
				Rest of Humber Area CD5	0206
				Deer Lake	0206
				Stephenville	0207
				Aguathuna	0207
				St. George Area	0208
				Port-au-Port Area	0209
021			French Shore-St.Barbe District (CD 9)		
				Englee	0214
				St. Anthony	0215
				White Bay	0216
				Rest of French Shore	0217
				St. Barbe Area	0218
03		Labrador Zone			
030			Labrador District (CD 10)		
				Knob Lake Area - Labrador portion (1)	0304
				Grand Falls	0305
				Goose Bay	0306
				Hamilton Inlet	0307
				Labrador Coast Fishing Areas	0308
				Rest of Labrador	0309
10	Province of Prince Edward Island				
100			Charlottetown (Queen's and King's Counties)		
				☆ Charlottetown	1002
				Rest of Charlottetown Area	1003
				Rest of Queen's County	1005
				☆ Souris	1006
				Georgetown	1007
				☆ Montague	1008
				Rest of King's County	1009
101			Summerside (Prince County)		
				☆ Summerside (incl. St. Eleanors)	1013
				Borden	1015
				☆ Alberton	1016
				Kensington	1017
				Tignish	1018
				Rest of Prince County	1019
2	Province of Nova Scotia				
20		Sydney - Cape Breton Island Zone			
200			Sydney(Cape Breton N.& Cape Breton S. Counties)		
				☆ Sydney	2002
				☆ North Sydney	2003
				Sydney Mines	2004
				New Waterford - Dominion-Reserve	2005
				☆ Glace Bay	2006
				☆ Louisburg	2007
				Rest of Cape Breton South Cty.	2008
				Rest of Cape Breton North Cty.	2009
201			Bras d'Or District(Richmond & Victoria Counties)		
				Arichat	2014
				St. Peter's	2015
				Rest of Richmond County	2016
				Baddeck	2017
				Rest of Victoria County	2019
202			Inverness (Inverness County)		
				Inverness	2023
				Port Hood	2024
				Cheticamp	2025
				☆ Port Hawkesbury	2026
				Rest of Inverness County	2029

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(1) See also Code 4024

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
21		Northern Nova Scotia Zone			
210			Canso District(Antigonish & Guysborough Counties)		
				☆ Antigonish	2104
				Rest of Antigonish County	2105
				Guysborough	2106
				Mulgrave	2107
				☆ Canso	2108
				Rest of Guysborough County	2109
211			New Glasgow (Pictou County)		
				☆ New Glasgow	2112
				(☆) Trenton	2113
				☆ Stellarton	2114
				☆ Pictou	2115
				Westville	2116
				Thorburn	2117
				Rest of New Glasgow Indust. Area	2118
				Rest of Pictou County	2119
212			Amherst (Northern part of Cumberland County)		
				☆ Amherst	2123
				Joggins	2124
				River Hebert	2125
				Maccan	2126
				Nappan	2127
				Malagash	2128
				Rest of North Cumberland Cty.	2129
213			Springhill (southern part of Cumberland County)		
				☆ Springhill	2133
				☆ Parrsboro	2135
				☆ Oxford	2137
				Rest of South Cumberland County	2139
214			Truro (Colchester County)		
				☆ Truro	2142
				Rest of Truro Area	2143
				Salmon Arm	2143
				Bible Hill	2143
				Debert	2144
				☆ Stewiacke	2145
				Rest of Colchester County	2149
215			Hants District (Hants County)		
				☆ Windsor	2154
				☆ Hantsport	2156
				Rest of Hants County	2159
22		Halifax - South Shore Zone			
220			Halifax (Halifax County)		
				☆ Halifax city	2201
				☆ Dartmouth	2202
				N.W. Arm P.D.	2203
				Fairview	2203
				Armdale	2203
				Jollimore	2203
				Bedford Basin P.D.	2204
				Rockingham	2204
				Bedford	2204
				Imperoyl	2205
				Eastern Passage	2206
				Rest of Greater Halifax	2207
				Ferguson's Cove P.D.	2207
				Tuft's Cove P.D.	2207
				Woodside P.D.	2207
				Sheet Harbour	2208
				Rest of Halifax County	2209
221			Bridgewater (Lunenburg County)		
				☆ Bridgewater	2213
				☆ Lunenberg	2214
				La Have	2215
				☆ Mahone Bay	2216
				Rest of Lunenberg County	2219

3 digit code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
222			Liverpool (Queen's County)		
				Liverpool	2223
				Caledonia	2226
				Rest of Queen's County	2229
223			Yarmouth(Yarmouth,Shelburne, & Digby Counties)		
				☆ Yarmouth	2233
				Rest of Yarmouth County	2234
				Wedgeport	2234
				☆ Shelburne	2235
				☆ Lockeport	2236
				☆ Rest of Shelburne County	2237
				☆ Clarke's Harbour	2237
				☆ Digby	2238
				Rest of Digby County	2239
23		Annapolis Valley Zone			
230			Kentville (King's & Annapolis Counties)		
				☆ Kentville	2303
				☆ Wolfville	2304
				☆ Berwick	2305
				Rest of King's County	2306
				☆ Middleton	2307
				☆ Bridgetown	2308
				Rest of Annapolis County	2309
				☆ Annapolis Royal	2309
3	Province of New Brunswick				
30		Moncton - Maritime Central Zone			
300			Moncton (Westmoreland & Albert Counties)		
				☆ Moncton	3002
				Rest of Greater Moncton Area	3003
				(☆) Sackville	3004
				☆ Shediac	3005
				☆ Port Elgin	3006
				Rest of Westmoreland County	3007
				Hillsborough	3008
				Rest of Albert County	3009
31		Saint John - Southern N.B. Zone			
310			Saint John (Saint John County)		
				☆ Saint John (city proper)	3101
				West St. John	3102
				Rest of Lancaster Parish	3103
				Simonds Parish	3104
				East St. John	3104
				Brookville	3104
				Coldbrook	3104
				Golden Grove	3104
				Glen Falls	3104
				Terryburn	3104
				Rest of Greater Saint John	3105
				Beaconsfield	3106
				Fairville	3107
				Rest of Saint John County	3109
311			Sussex (King's County)		
				☆ Sussex	3113
				Rothesay	3115
				Apohaqui	3117
				Rest of King's County	3119
312			Minto (Queen's County)		
				Minto	3123
				Newcastle Bridge	3124
				Newcastle Creek	3125
				Chipman	3126
				Rest of Queen's County	3129
313			St. Stephen's (Charlotte County)		
				☆ St. Stephen's	3133
				(☆) Milltown	3134
				☆ St. Andrews	3135
				St. George	3136
				Black's Harbour	3137
				North Head, Grand Manan	3138
				Rest of Charlotte County	3139

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
32		Saint John Valley Zone			
320			Fredericton (York and Sunbury Counties)		
				☆ Fredericton (incl. Devon)	3202
				(☆) Marysville	3203
				Rest of Fredericton area	3204
				McAdam	3205
				Ste. Croix	3206
				Rest of York County	3207
				Sunbury County	3209
321			Woodstock (Carleton County)		
				☆ Woodstock	3213
				☆ Hartland	3215
				Juniper	3216
				Bristol	3217
				Rest of Carleton County	3219
322			Edmundston(Madawaska & Victoria Counties)		
				(☆) Edmundston	3223
				☆) St. Leonard	3224
				Rest of Madawaska County	3225
				☆ Grand Falls	3226
				Plaster Rock	3227
				Rest of Victoria County	3229
33		Northeastern New Brunswick Zone			
330			Kent district (Kent County)		
				Richibucto	3304
				Buctouche	3305
				Shediac Bridge	3306
				Rest of Kent County	3309
331			Newcastle (Northumberland county)		
				☆ Newcastle	3313
				☆ Chatham	3315
				Nelson	3316
				Loggieville	3317
				Rest of Northumberland County	3319
332			Bathurst (Gloucester County)		
				(☆) Bathurst	3323
				Caraquet	3325
				☆ Shippigan	3326
				Tracadie	3327
				Rest of Gloucester County	3329
333			Campbellton (Restigouche County)		
				☆ Campbellton	3333
				(☆) Dalhousie	3334
				Atholville	3337
				Rest of Restigouche County	3339

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
4	Province of Quebec				
40		North Shore/New Quebec Zone			
400			Seven Islands/Sept Iles/(East part of Saguenay County incl. Anticosti)		
				Seven Islands	4003
				Havre St. Pierre	4004
				Allard Lake	4005
				Blanc Sablon	4006
				Rest of Saguenay East	4008
				Anticosti	4009
401			Forestville (West part of Saguenay County)		
				Forestville	4013
				Clarke City	4014
				Franklin Godbout	4015
			(x)	Baie Comeau	4016
				Ste.Anne de Portneuf	4017
			x	Tadoussac	4018
			x	Grandes Bergeronnes	4018
				Rest of West Saguenay County	4019
402			New Quebec District (Nouveau-Quebec District)		
				Knob Lake area - Quebec portion (1)	4024
				Eastern Canyon	4026
				Chimo	4027
				Rest of Nouveau Quebec District	4029
403			Mistassini District (Mistassini District)		4039
41		Gaspe Peninsula/South Shore Zone			
410			Madeleine Islands District(Madeleine Islands County)		
				Havre Aubert	4104
				Rest of Madeleine Islands	4109
411			Gaspe(Gaspe W. and Northeast part of Gaspe E.) (Provincially, Gaspe N.and N.E.part of Gaspe South)		
			x	Gaspe	4113
				Riviere aux Renards	4115
				Rest of N.E. Gaspe East	4116
				Ste. Anne des Monts	4117
			x	Cap Chat	4118
				Rest of Gaspe West County	4119
412			Chandler (Southwest part of Gaspe E.County) (Provincially, S.W. Gaspe S.)		
			(x)	Chandler	4123
			x	Grande Riviere	4125
				Perce	4127
				Rest of SW Gaspe East County	4129
413			New Richmond (Bonaventure County)		
				New Richmond	4133
				Rest of Bonaventure County	4139
414			Causapscal (Matapedia County)		
			x	Causapscal	4143
			x	Amqui	4146
			x	Lac Au Saumon	4147
			(x)	Sayabec	4148
				Rest of Matapedia County	4149
415			Matane (Matane County)		
			x	Matane	4153
			x	St. Ulric	4155
			x	Price	4156
				Les Mechins	4157
				Rest of Matane County	4159
416			Rimouski (Rimouski County)		
			x	Rimouski	4163
			x	Mont-Joli	4164
			x	Luceville	4165
			x	St. Angele	4166
				St. Narcisse	4167
			x	Bic	4168
				Rest of Rimouski County	4169

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(1) See also Locality Code 0304

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
417			Riviere du Loup (Riviere du Loup, Temiscouata and Kamouraska Counties)		
			M	Riviere du Loup	4173
				Isle Verte	4174
			M	Trois Pistoles	4175
				Rest of Riviere du Loup County	4176
				Notre Dame du Lac	4177
				Rest of Temiscouata County	4178
			M	Cabano	4178
			M	La Riviere Bleue	4178
				Kamouraska County	4179
				St. Anne de la Pocatiere	4179
			M	St. Pascal	4179
			M	St. Pacome	4179
418			Montmagny (Montmagny & L'Islet counties)		
			M	Montmagny	4183
				Cap St. Ignace	4184
				Rest of Montmagny County	4186
				L'Islet	4187
				St. Jean Port Joli	4188
				Rest of L'Islet County	4189
419			Bellechasse District (Bellechasse County)		
			M	St. Charles	4194
			M	St. Raphael	4196
				Rest of Bellechasse County	4199
42		Saguenay Valley/Lake St. John Zone			
420			Port Alfred (East part of Chicoutimi County)		
			(M)	Port Alfred	4203
			M	Bagotville	4204
			M	Grand Baie (St. Alexis)	4205
				Farland	4207
				Rest of east Chicoutimi County	4209
421			Chicoutimi (Central part of Chicoutimi County)		
			M	Chicoutimi	4212
			M	Riviere du Moulin	4213
			M	Ste. Anne	4214
			M	St. Fulgence	4215
			M	Laterriere	4216
				Rest of Central Chicoutimi County	4219
422			Jonquiere (West part of Chicoutimi County)		
			M	Jonquiere	4223
			(M)	Kenogami	4224
			(M)	Arvida	4225
				Shipshaw	4226
			M	St. Ambroise	4227
				Rest of West Chicoutimi County	4229
423			St. Joseph d'Alma (Lac St.Jean - East County) (Provincially, Lac St. Jean County)		
			M	St. Joseph d'Alma	4233
			(M)	Riverbend	4234
			(M)	Isle Maligne	4235
			(M)	Desbiens	4236
			M	St. Jerome (Metabetchouan)	4237
				Rest of Lac St.Jean Est County	4239
			M	Delisle	4239
			M	Hebertville & H. Station	4239
			M	St. Bruno	4239
			M	St. Gedeon	4239
424			Roberval (Southern part of Lac St.Jean West County) (Provincially, south part of Roberval County)		
			M	Roberval	4243
			M	St. Felicien	4245
			M	St. Prime	4246
				Chambord	4247
			M	Lac Bouchette	4248
				Rest of Southern Lac St.Jean W. County	4249
425			Dolbeau (northern part of Lac St.Jean - West County) (Provincially north part of Roberval County)		
				Dolbeau	4253
				Mistassini	4255
			M	Albanel	4256
			M	Normandin	4257
				Rest of North. Lac St.Jean W.County	4259

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
43		Quebec Metropolitan - Eastern Laurentians Zone			
430			Quebec City(Quebec,Portneuf,Montmorency 1 & 2 Counties)		
				☆ Quebec City	4301
				Rest of Greater Quebec Metropolitan area(as in Census def. but excl. Lauzon and Levis)	4302
				☆ Beauport	4302
				Beauport East	4302
				☆ Charlesbourg	4302
				☆ Giffard	4302
				(☆) Montmorency (village)	4302
				Quebec West	4302
				☆ Sillery	4302
				Ste. Foy	4302
				Valcartier	4303
				Rest of Quebec County	4304
				☆ Loretteville	4304
				L'Ancien Lorette	4304
				St. Michel Archange	4304
				☆ Portneuf Station	4305
				(☆) Donnacona	4306
				Rest of Portneuf County	4307
				☆ St. Raymond	4307
				Chute Panet	4307
				(☆) Pont Rouge	4307
				☆ St. Marc des Carrieres	4307
				☆ Grondines	4307
				☆ Montauban	4307
				☆ Neuville	4307
				☆ St. Alban	4307
				☆ St. Casimir	4307
				☆ St. Ubald	4307
				Montmorency No. 1 County	4308
				Ste. Anne de Beaupre	4308
				Montmorency No.2 County(Ile d'Orleans)	4309
431			Levis (Levis & Lotbiniere counties)		
				☆ Levis	4312
				Lauzon	4313
				St. Romuald	4314
				☆ Charny	4315
				Rest of Levis County	4316
				☆ St. Henri	4316
				☆ Ste. Croix	4317
				☆ St. Agapitville	4318
				Rest of Lotbiniere County	4319
				☆ Deschaillons	4319
				☆ Fortierville	4319
				☆ Ste. Agathe	4319
				☆ St. Flavien	4319
				☆ St.Patrice de Beaurivage	4319
432			La Malbaie (Charlevois E. & W. Counties) (Provincially, Charlevoix County)		
				☆ La Malbaie (Murray Bay)	4323
				☆ Point au Pic	4324
				(☆) Clermont	4325
				☆ St. Simeon	4326
				Rest of Charlevoix E. County	4327
				☆ Baie St. Paul	4328
				Rest of Charlevoix W. County	4329

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
44		Three Rivers - St. Maurice Valley Zone			
440			Three Rivers(Southern part of St.Maurice,southern part of Champlain,southern part of Maskinonge,and Nicolet counties)		
			✱	Three Rivers	4402
				Rest of Southern St.Maurice County	4403
			✱	Yamachiche	4403
			✱	Cap de la Madeleine	4404
				Rest of southern Champlain County	4405
			✱	Champlain	4405
			✱	Ste. Anne de la Perade	4405
			✱	Louiseville	4406
				Rest of South Maskinonge County	4407
			✱	Maskinonge	4407
			✱	St. Paulin	4407
			✱	Nicolet	4408
				Rest of Nicolet county	4409
			✱	Becancour	4409
			✱	Gentilly	4409
			✱	Manseau	4409
			✱	St. Leonard d'Aston	4409
			✱	St. Sylvere	4409
			✱	St. Wenceslas	4409
441			Shawinigan Falls(Northern part of St.Maurice,Central part of Champlain,& northern part of Maskinonge Counties)		
			✱	Shawinigan Falls	4412
			✱	Grand'Mère (Champlain)	4414
			✱	Almaville (Champlain)	4415
				Baie de Shawinigan	4416
				Rest of Northern part of St.Maurice Cty.	4417
			✱	St. Boniface de Shawinigan	4417
				Northern part of Maskinonge County	4418
				Central part of Champlain County	4419
			✱	Ste. Tite	4419
			✱	Ste. Thècle	4419
442			La Tuque (Northern part of Champlain County) (Provincially, Laviolette County)		
			(✱)	La Tuque	4423
				St. Jean de Piles	4425
				Sanmaur	4427
				Rest of Northern Champlain County	4429
45		Sherbrooke - Eastern Townships Zone			
450			Sherbrooke (Sherbrooke,Stanstead, & Compton Counties)		
			✱	Sherbrooke	4502
			✱	Lennoxville	4503
				Rest of Sherbrooke County	4504
			(✱)	Magog	4505
			✱	Coaticook	4506
				Rest of Stanstead County	4507
			✱	Rock Island	4507
			✱	Beebe Plain	4507
			✱	Ayer's Cliff	4507
			✱	North Hatley	4507
			(✱)	East Angus	4508
				Rest of Compton County	4509
			✱	Cookshire	4509
			✱	Compton	4509
			✱	La Patrie	4509
			✱	Sawyerville	4509
			✱	Waterville	4509
451			Megantic (Frontenac County)		
				Megantic	4513
			✱	Lac Megantic	4514
				Ste. Romaine	4516
			✱	St. Sebastien de Beauce	4517
				Rest of Frontenac County	4519
			✱	La Guadeloupe	4519
			✱	Lambton	4519
			✱	St. Ludger	4519

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
452		St. George Est (Beauce and Dorchester Counties)			
			*	St. Georges de Beauce	4523
			*	St. Georges Est	4524
				East Broughton	4525
				Rest of Beauce County	4526
			*	Beauceville (East and West)	4526
			*	St. Joseph	4526
			*	Ste. Marie	4526
				Valley Junction	4526
			*	Tring Junction	4526
			*	St. Ephrem de Tring	4526
			*	St. Victor de Tring	4526
			*	Liniere	4526
			*	St. Isidore	4527
				Ste. Claire	4528
				Rest of Dorchester County	4529
			*	St. Anselme	4529
453		Thetford Mines (Megantic County)			
			*	Thetford Mines	4533
			*	Black Lake	4534
				Coleraine	4535
			*	Robertsonville	4536
			*	Plessisville	4537
			*	Laurierville	4538
				Rest of Megantic County	4539
			*	Lyster	4539
454		Asbestos (Richmond and Wolfe Counties)			
			*	Asbestos	4543
			*	Danville	4544
			*	Richmond	4545
			*	Windsor Mills	4546
				Rest of Richmond County	4547
			(*)	Bromptonville	4547
				Ham South	4548
				Rest of Wolfe County	4549
			*	Disraeli	4549
			*	Weedon	4549
			*	Wotton	4549
			*	Bishopton	4549
			*	St. Gerard	4549
455		Victoriaville (Arthabaska County)			
			*	Victoriaville	4553
			*	St. Norbert	4554
			*	Arthabaska	4555
			*	Warwick	4556
			*	Princeville	4557
			*	Daveluyville	4558
				Rest of Arthabaska County	4559
456		Drummondville (Drummond County)			
			*	Drummondville	4563
			*	St. Joseph	4564
				St. Simeon	4565
				St. Jean Baptiste	4566
				Drummondville West	4567
				St. Phillippe	4568
				Rest of Drummond County	4569
			*	St.Germaine de Grantham	4569
			*	Durham South	4569
			*	St. Cyrille	4569
457		Granby (Shefford County)			
			*	Granby	4573
			*	Waterloo	4574
			*	Warden	4575
			(*)	Valcourt	4576
			*	Roxton Falls	4577
				Rest of Shefford County	4579
458		Farnham (Brome & Missisquoi Counties)			
			*	Farnham	4583
			*	Bedford	4584
			(*)	Cowansville	4585
			*	Dunham	4586
				Rest of Missisquoi County	4587
			*	Frelighsburg	4587
			*	Sutton	4588
				Rest of Brome County	4589
			*	Knowlton	4589
			*	Eastman	4589

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
46		Montreal Plains/Laurentians Zone			
460			Sorel (Richelieu and Yamaska Counties)		
				Sorel	4602
			(*)	St. Joseph de Sorel	4603
				Rest of Richelieu County	4605
				Yamaska	4606
			*	Pierreville	4607
				Rest of Yamaska County	4609
			*	St. Francois du Lac	4609
			*	St. Guillaume	4609
			*	Baieville	4609
461			Ste. Hyacinthe (Ste.Hyacinthe & Bagot Counties)		
			*	Ste. Hyacinthe	4612
			*	St. Denis	4613
			*	La Providence	4614
				Rest of Ste. Hyacinthe County	4615
			*	Ste. Madeleine	4615
			*	St. Joseph	4615
			*	St. Charles sur Richelieu	4615
			*	Acton Vale	4616
			*	Upton	4617
			*	St. Pie	4618
				Rest of Bagot County	4619
			*	St. Dominique	4619
			*	St. Hugues	4619
			*	St. Liboire	4619
462			St. Jean (St.Jean, Iberville, Rouville & Napierville Ctys.)		
			*	St. Jean	4622
			*	Lacolle	4623
				Rest of St. Jean County	4624
			*	Iberville	4625
				Rest of Iberville County	4626
			*	Henryville	4626
			*	Marieville	4627
				Rest of Rouville County	4628
			*	St. Cesaire	4628
			*	Canrobert	4628
			*	Richelieu	4628
			*	Rougemont	4628
				Napierville County	4629
			*	St. Remi	4629
			*	Napierville	4629
463			Beauharnois(Chateauguay & North.Part of Beauharnois Ctys)		
			*	Beauharnois	4632
				Melocheville	4633
				Rest of north Beauharnois County	4634
			*	Chateauguay	4635
				Ste. Martine	4636
			(*)	Ormstown	4637
			*	St. Chrysostôme	4638
				Rest of Chateauguay County	4639
464			Valleyfield (Huntingdon &South.part of Beauharnois Ctys)		
			*	Valleyfield	4642
				De Salaberry	4643
				Clark Island	4644
				Nitro	4645
				Rest of Southern Beauharnois County	4646
			*	Huntingdon	4647
			*	Hemmingford	4648
				Rest of Huntingdon County	4649
465			Joliette (Joliette, Montcalm & Berthier Counties)		
			*	Joliette	4652
			*	St. Felix de Valois	4653
				Rest of Joliette County	4654
			(*)	Crabtree Mills	4654
			*	Berthierville	4655
			*	St. Gabriel de Brandon	4656
				Rest of Berthier County	4657
			*	Lavaltrie	4657
				Montcalm County	4659
			*	St. Jacques	4659
			*	Rawdon	4659

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
466		Terrebonne/Ste.Therese-St.Jerome-Ste.Agathe/ (Terrebonne County)			
			Ste.Therese (southern part of Terrebonne County)		
				* Ste. Therese de Blainville	4663
				Bouchard	4663
				Ste. Rose	4664
				* Terrebonne	4664
				Ste. Anne	4664
			Ste.Jerome (central part of Terrebonne County)		
				* St. Jerome	4665
				Shawbridge	4666
				St. Janvier	4666
				* Ste. Adele	4666
				* St. Sauveur des Monts	4666
				Mont-Rolland	4666
				Val Morin	4666
			Ste.Agathe(northern part of Terrebonne County)		
				* Ste. Agathe des Monts	4667
				* Val David	4667
				* Lac Carre	4668
				* St. Jovite	4668
467		Lachute (Argenteuil County)			
				* Lachute	4673
				Lachute Mills	4674
				(*) Brownsburg	4675
				St. Andrews	4676
				* Calumet	4677
				* Grenville	4678
				Rest of Argenteuil County	4679
				Kilmar	4679
468		Mont-Laurier (Labelle County)			
				* Mont-Laurier	4683
				* Ferme-Neuve	4684
				* Labelle	4685
				* L'Annonciation	4686
				* Nominingue	4687
				* Val Barrette	4688
				Rest of Labelle County	4689
469		Montreal Green Belt District(LaPrairie,Vercheres, L'Assomption, Deux Montagnes, Vaudreuil and Soulanges Counties)			
			LaPrairie County		4694
				* LaPrairie	4694
				(*) Delson	4694
				St. Isadore	4694
			Vercheres County		4695
				Vercheres	4695
				Varennes	4695
				Beloeil	4695
				(*) McMasterville	4695
				Contrecoeur	4695
			L'Assomption County		4696
				* L'Assomption	4696
				Cherrier/St.Paul L'Ermite	4696
				* L'Epiphanie	4696
				* Charlemagne	4696
			Deux Montagnes County		4697
				* St. Eustache	4697
				* Ste. Scholastique	4697
				* Oka sur le Lac	4697
				* St. Augustin	4697
				* St. Benoit	4697
			Vaudreuil County		4698
				* Vaudreuil	4698
				Hudson	4698
				* Rigaud	4698
				* Dorion	4698
			Soulanges County		4699
				* Coteau du Lac	4699
				* St. Polycarpe	4699
				* St. Clet	4699

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
47		Montreal-Metropolitan Zone(Montreal Island,Jesus Island, & Chambly Ctys.) (Provincially; Montreal,Laval, Jacques Cartier & Chambly Ctys.)			
470			Montreal(N.E.half of Montreal Island, Jesus Island and Chambly counties)		
			M	Montreal (City Proper)	4701
				East Montreal	4702
			M	Montreal East (Mtl.5)	4702
				Longue Pointe	4702
			M	Pointe aux Trembles	4702
				St. Leonard	4702
				Rest of Mtl.Island East	4702
				North Montreal	4703
			M	Montreal North (Mtl.12)	4703
				Mount Royal (Mtl.16)	4703
			M	Outremont (Mtl. 8)	4703
			M	Ville St. Michel (Mtl.38)	4703
				Rest of Mtl.Island N.W.(Mtl.12)	4703
				West Montreal	4704
				Montreal West (Mtl.28)	4704
			M	Westmount (Mtl. 6)	4704
			M	Verdun (Mtl. 19)	4704
			(M)	Cote St. Luc (Mtl.29)	4704
				Hamstead (Mtl.29)	4704
				South-West Montreal	4705
			M	Lachine (Mtl. 32)	4705
			M	Ville St. Pierre (Mtl.32)	4705
			M	Ville LaSalle (Mtl.32)	4705
			M	Dorval (Mtl. 33)	4705
				North West Montreal	4706
			M	Ville St. Laurent (Mtl.9)	4706
				St. Laurent (Parish)	4706
				Cartierville	4706
				Rest of Mtl.Island apart from Ste.Anne de Bellevue district	4706
				South Montreal	4707
			M	Montreal South (Mtl. 23)	4707
			M	St. Lambert	4707
			M	Greenfield Park	4707
			M	Longueuil	4707
				Rest of Chambly (apart from S.Mtl.)	4708
			M	Chambly Canton	4708
			M	Chambly Basin	4708
				St. Hubert	4708
			M	Boucherville	4708
				Rest of Chambly County	4708
				Jesus Island County	4709
			M	Ste. Rose	4709
			M	L'Abord -a- Plouffe	4709
			M	Laval des Rapides	4709
			M	Pont Viau	4709
				Rest of Jesus Island County	4709
471			Ste.Anne de Bellevue(southwest part of Montreal Island)		
				Ste. Anne de Bellevue	4713
				Baie d'Urfe	4714
				Beaconsfield	4715
			M	Pointe Claire	4716
			M	Ste. Genevieve de Pierrefonds	4717
				Senneville	4718
				Rest of S.W. Montreal Island	4719
				Ile Bizard	4719

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
48		Hull - Western Laurentians Zone			
480			Hull(Hull,Pontiac & southern part of Gatineau Cty.) (Provincially,southern part of Gatineau County, and Pontiac County)		
				* Hull	4802
				Gatineau Point	4803
				(*) Gatineau Hills	4804
				Aylmer	4805
				* Wakefield	4806
				Rest of Hull-S.Gatineau Counties	4807
				* Shawville	4808
				Rest of Pontiac County	4809
				Fort Coulonge	4809
				* Quyon	4809
				* Campbell's Bay	4809
481			Maniwaki (Northern part of Gatineau County)		
				* Maniwaki	4813
				* Gracefield	4815
				Kazabazua	4816
				Bouchette	4817
				Rest of North Gatineau County	4819
482			Buckingham (Papineau County)		
				(*) Buckingham	4823
				Masson	4824
				* Thurso	4825
				* Papineauville	4826
				* Montebello	4827
				* Angers	4828
				Rest of Papineau County	4829
				* St. Andre-Avellin	4829
				* Cheneville	4829
				* Ripon	4829
49		Western Quebec Zone			
490			Val d'Or (Eastern part of Abitibi County and eastern part of Abitibi District) (Provincially, Abitibi Est County)		
				* Val d'Or	4903
				* Bourlamaque	4903
				* Malartic	4904
				* Cadillac	4904
				* Senneterre	4905
				* Barraute	4905
				* Amos	4906
				Clova	4907
				Rest of Eastern Abitibi County	4908
				Eastern part of Abitibi District	4909
491			Rouyn(Temiscamingue County, West.part of Abitibi County and West. Part of Abitibi District) (Provincially,Rouyn-Noranda, Abitibi West, and Temiscamingue Counties)		
				Rouyn	4913
				(*) Noranda	4914
				Rest of Rouyn-Noranda Area (Prov. County)	4915
				* La Sarre	4916
				Rest of Western Abitibi County	4917
				* Makamik	4917
				Western part of Abitibi District	4918
				Temiscamingue County	4919
				(*) Temiscamingue	4919
				Ville Marie	4919

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
5	Province of Ontario				
50		Ottawa - Eastern Ontario Zone			
500			Ottawa (Carleton & Russell Counties)		
				Ṁ Ottawa	5001
				Rockcliffe	5002
				Ṁ Eastview	5003
				M Richmond	5005
				Rest of Carleton County	5006
				Ṁ Rockland	5007
				M Casselman	5008
				Rest of Russell County	5009
501			Pembroke (Northwestern part of Renfrew County)		
				Ṁ Pembroke	5013
				Petawawa	5014
				Chalk River	5015
				Deep River	5016
				Ṁ Eganville	5017
				Ṁ Barry's Bay	5018
				Rest of N.W. Renfrew County	5019
				Ṁ Killaloe	5019
502			Renfrew-Arnprior (Southeastern part of Renfrew County)		
			Renfrew		
				Ṁ Renfrew	5023
				Haley	5024
				Ṁ Cobden	5025
			Arnprior		
				M Arnprior	5026
				(M) Braeside	5027
				Calabogie	5028
				Rest of SE. Renfrew County	5029
503			Lanark/Carleton Place - Perth - Smith Falls/ (Lanark County)		
			Carleton Place		
				M Carleton Place	5033
				M Almonte	5034
				Appleton	5035
			Perth		
				Ṁ Perth	5036
				Lanark	5037
			Smiths Falls		
				(M) Smiths Falls	5038
				Rest of Lanark County	5039
504			Hawkesbury (Prescott County)		
				(Ṁ) Hawkesbury	5043
				Alfred	5045
				Plantagenet	5046
				Ṁ L'Orignal	5047
				Ṁ Vankleek Hill	5048
				Rest of Prescott County	5049
505			Cornwall (Stormont,Dundas & Glengarry Counties)		
				Ṁ Cornwall	5052
				Rest of Stormont County	5054
				M Morrisburg	5055
				(M) Iroquois	5056
				Rest of Dundas County	5057
				(Ṁ) Chesterville	5057
				Ṁ Winchester	5057
				Ṁ Alexandria	5058
				Rest of Glengarry County	5059
				Ṁ Maxville	5059
506			Prescott (Grenville County)		
				M Prescott	5063
				(Ṁ) Cardinal	5065
				Ṁ Merrickville	5066
				M Kemptville	5067
				Rest of Grenville County	5069
507			Brockville (Northeastern part of Leeds County)		
				Ṁ Brockville	5073
				Ṁ Athens	5075
				Rest of N.E. Leeds County	5079
508			Gananoque (Southwestern part of Leeds County)		
				Ṁ Gananoque	5083
				Lansdowne	5084
				Rockport	5085
				Ṁ Westport	5087
				Rest of S.W. Leeds County	5089

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
51		Kingston/Peterborough-Lake Ontario Zone			
510			Kingston (Frontenac County)		
				☆ Kingston	5102
				Barriefield	5103
				Portsmouth	5104
				Sharbot Lake	5107
				Rest of Frontenac County	5109
511			Napanee (Lennox-Addington County)		
				☆ Napanee	5113
				Kaladar	5115
				Rest of Lennox County	5117
				☆ Newburgh	5118
				Rest of Addington County	5119
512			Picton (Prince Edward County)		
				☆ Picton	5123
				☆ Bloomfield	5125
				☆ Wellington	5126
				Rest of Prince Edward County	5129
513			Belleville(northwestern part of Hastings County)		
				☆ Belleville	5132
				Corbyville	5133
				☆ Deseronto	5134
				☆ Tweed	5135
				☆ Madoc	5136
				(☆) Deloro	5137
				☆ Marmora	5138
				Rest of Hastings County excl. Trenton area S.W. part	5139
				☆ Bancroft	5139
514			Trenton (southwestern part of Hastings County)		
				☆ Trenton	5143
				☆ Frankford	5144
				Batawa	5145
				☆ Stirling	5146
				Rest of S.W. Hastings County	5149
515			Cobourg (Northumberland County)		
				☆ Cobourg	5153
				☆ Campbellford	5155
				☆ Hastings	5156
				(☆) Brighton	5157
				☆ Colborne	5158
				Rest of Northumberland County	5159
516			Durham District (Durham County)		
				☆ Port Hope	5164
				☆ Bowmanville	5166
				☆ Newcastle	5167
				☆ Millbrook	5168
				Rest of Durham County	5169
517			Peterborough (Peterborough County)		
				☆ Peterborough	5172
				☆ Lakefield	5174
				☆ Havelock	5175
				☆ Norwood	5177
				Rest of Peterborough County	5179
518			Haliburton District (Haliburton County)		
				Minden	5184
				Haliburton	5185
				Rest of Haliburton County	5189
519			Lindsay (Victoria County)		
				☆ Lindsay	5193
				☆ Bobcaygeon	5195
				☆ Fenelon Falls	5197
				☆ Omemee	5198
				Rest of Victoria County	5199

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
52		Toronto - Metropolitan Zone			
520			Toronto (Southern part of York & Southern part of Peel Ctys) New Toronto L.O.-5203; Weston L.0-5205,5206 and 5209 Woodbridge; Toronto L.O.-remainder.		
				Greater Toronto Metropolitan Area	5201-08 incl.
			☆	Toronto (city proper)	5201
				Toronto Sunnyside	5202
			☆	Swansea	5202
				Etobicoke	5202
				Queen Elizabeth Way	5202
				Toronto Lakeshore (Tor. 14)	5203
			☆	Mimico	5203
			☆	New Toronto	5203
			☆	Long Branch	5203
				Lakeview	5203
			(☆)	Port Credit	5203
				Cooksville	5203
			☆	Streetsville	5203
				Rest of Peel South ex.Malton	5203
				Toronto West Bloor	5204
				Lambton	5204
				Islington	5204
				Toronto West	5205
				Mount Dennis	5205
			☆	Weston	5205
				Toronto Air	5206
				Malton	5206
				Downsview	5206
				Toronto North	5207
				Forest Hill (Tor. 12)	5207
				Lansing	5207
				Willowdale	5207
				Thornhill	5207
				Langstaffe	5207
			☆	Richmond Hill	5207
				Toronto East	5208
			☆	Leaside (Tor. 17)	5208
				East York (Tor. 13)	5208
				Scarborough(Tor.13)	5208
				Rest of South York County(non-Metpltn)	5209
				Agincourt	5209
				Unionville	5209
			☆	Markham	5209
			☆	Woodbridge	5209
				Maple	5209
			☆	Stouffville	5209
521			Newmarket (Northern part of York County)		
			☆	Newmarket	5213
			☆	Aurora	5214
				Holland Landing	5216
			☆	Sutton West	5217
				Rest of North York County	5219
522			Oshawa (Ontario County)		
			☆	Oshawa	5222
			☆	Whitby	5223
				Ajax	5224
				Pickering	5225
			☆	Port Perry	5226
			☆	Uxbridge	5227
			☆	Cannington	5228
				Rest of Ontario County	5229
			☆	Beaverton	5229
				Longford Mills	5229
523			Oakville(Southern part of Halton Cty. excl. Nelson Twp)		
			☆	Oakville	5233
				Clarkson	5234
			☆	Milton	5236
				Rest of South Halton Cty.excl.Nelson	5239
524			Brampton(Northern parts of Peel & Halton Counties)		
			☆	Brampton	5243
			☆	Bolton	5244
				Rest of North Peel County	5245
			☆	Georgetown	5246
				Glen Williams	5247
			☆	Acton	5248
				Rest of North Halton County	5249

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
53		Hamilton/St.Catharines - Niagara Zone			
530			Hamilton(Wentworth Cty.& Nelson Township of Halton Cty.)		
			☆	Hamilton	5301
			☆	Dundas	5302
			☆	Burlington	5303
				Aldershot	5304
				Other Greater Hamilton Area	5305
			☆	Stoney Creek	5306
			☆	Waterdown	5307
				Rest of Wentworth County	5308
				Rest of Nelson Twp.Halton County	5309
531			St. Catharines(Lincoln County and the Thorold section of Welland County)		
			☆	St. Catharines	5312
			☆	Merritton	5313
			☆	Thorold (Welland County)	5314
			☆	Port Dalhousie	5315
			☆	Niagara - on - the - Lake	5316
			☆	Grimsby	5317
				Jordon	5318
				Rest of Lincoln County	5319
			☆	Beamsville	5319
532			Welland (Northwestern part of Welland Cty excl.Thorold)		
			☆	Welland	5322
				Port Robinson	5323
				Rest of N.W.Welland Cty. excl.Thorold	5329
533			Niagara Falls(northeastern part of Welland County)		
			☆	Niagara Falls	5333
			(☆)	Chippawa	5334
				Stamford Township	5335
				Rest of N.E. Welland County	5339
534			Fort Erie(southeastern part of Welland County)		
			☆	Fort Erie	5343
			☆	Crystal Beach	5345
				Ridgeway	5347
				Rest of S.E.Welland County	5349
535			Port Colborne(southwestern part of Welland County)		
			(☆)	Port Colborne	5353
			(☆)	Humberstone	5354
				Rest of S.W. Welland County	5359
536			Haldimand District (Haldimand County)		
			☆	Cayuga	5364
			☆	Dunnville	5365
			☆	Caledonia	5366
			(☆)	Hagersville	5367
			☆	Jarvis	5368
				Rest of Haldimand County	5369
				Port Maitland	5369
54		Kitchener/Brantford - Grand Valley Zone			
540			Brantford (Brant County)		
			☆	Brantford	5402
			☆	Paris	5404
				Rest of Brant County	5409
541			Galt (Southern part of Waterloo County)		
			☆	Galt	5412
			☆	Preston	5413
			☆	Hespeler	5414
			☆	Ayr	5416
				Rest of South Waterloo County	5419
542			Kitchener(Northern part of Waterloo County)		
			☆	Kitchener	5421
			☆	Waterloo	5422
			☆	Elmira	5424
			☆	New Hamburg	5426
				Rest of North Waterloo County	5429

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
543			Guelph (Wellington County)		
			☆	Guelph	5433
			(☆)	Fergus	5435
			☆	Elora	5436
			☆	Mt. Forrest	5437
			☆	Harriston	5438
				Rest of Wellington County	5439
			☆	Palmerston	5439
			☆	Erin	5439
			☆	Arthur	5439
			☆	Drayton	5439
544			Stratford (Southern part of Perth County)		
			☆	Stratford	5443
			☆	St. Mary's	5444
			☆	Mitchell	5445
			☆	Milverton	5447
				Rest of South Perth County	5449
545			Listowel (Northern part of Perth County)		
			☆	Listowel	5453
				Rest of North Perth County	5459
55		London - Lake Erie Zone			
550			London (Middlesex County)		
			☆	London (City proper)	5501
				Rest of Greater London	5502
				London Township	5502
				Westminster Township	5502
			☆	Strathroy	5504
			☆	Parkhill	5505
			☆	Ailsa Craig	5506
				Ilderton	5507
			☆	Glencoe	5508
				Rest of Middlesex County	5509
551			Ingersoll (Southwestern part of Oxford County)		
			☆	Ingersoll	5513
			☆	Tillsonburg	5515
				Thamesford	5517
				Rest of S.W. Oxford County	5519
552			Woodstock (Northeastern part of Oxford County)		
			☆	Woodstock	5523
				Beachville	5524
				Plattsville	5526
			☆	Norwich	5527
			☆	Tavistock	5528
				Rest of N.E. Oxford County	5529
553			Simcoe (Norfolk County)		
			☆	Simcoe	5533
			☆	Port Dover	5535
			(☆)	Delhi	5536
			☆	Waterford	5537
				Rest of Norfolk County	5539
554			St. Thomas (Elgin County)		
			☆	St. Thomas	5543
			(☆)	Aylmer (West)	5545
			☆	West Lorne	5546
			☆	Dutton	5547
			☆	Rodney	5548
				Rest of Elgin County	5549
			☆	Springfield	5549

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
56		Windsor - Lake St.Clair Zone			
560			Windsor (Northwestern part of Essex County)		
			Ṁ	Windsor (city proper incl.Walkerville, Sandwich, East Windsor)	5601
				Rest of Greater Windsor	5602
			M	Riverside	5602
			M	Tecumseh	5602
				Sandwich East	5602
				Sandwich West	5602
			(Ṁ)	Ojibway	5602
				LaSalle	5602
			M	Amherstburg	5604
			Ṁ	Harrow	5606
			Ṁ	Essex	5607
			M	Belle River	5608
				Rest of N.W. Essex County	5609
561			Leamington (Southeastern part of Essex county)		
			M	Leamington	5613
			(Ṁ)	Kingsville	5615
				Ruthven	5616
				Blytheswood	5617
				Rest of S.E. Essex County	5619
			Ṁ	Tilbury (pt)(see also 5626)	5619
562			Chatham (Southeastern part of Kent County)		
			Ṁ	Chatham	5622
			Ṁ	Blenheim	5624
			Ṁ	Ridgetown	5625
			Ṁ	Tilbury (pt) (see also 5619)	5626
			Ṁ	Bothwell	5627
			Ṁ	Wheatley	5628
				Rest of S.E. Kent County	5629
			Ṁ	Thamesville	5629
			M	Highgate	5629
563			Wallaceburg (Northwestern part of Kent County)		
			Ṁ	Wallaceburg	5633
			Ṁ	Dresden	5635
				Rest of N.W. Kent County	5639
564			Sarnia (Lambton County)		
			M	Sarnia	5642
			Ṁ	Point Edward	5643
				Froomfield	5644
			Ṁ	Petrolia	5646
			M	Watford	5647
			Ṁ	Thedford	5648
				Rest of Lambton County	5649
			M	Forest	5649
			Ṁ	Alvinston	5649
			Ṁ	Oil Springs	5649
57		Lake Huron/Georgian Bay Zone			
570			Goderich (Huron County)		
			M	Goderich	5703
			M	Seaforth	5704
			Ṁ	Clinton	5705
			Ṁ	Exeter	5706
				Centralia	5707
			Ṁ	Wingham	5708
				Rest of Huron County	5709
			M	Brussels	5709
			Ṁ	Blyth	5709
			Ṁ	Hensall	5709

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
571		Walkerton (Bruce County)			
			M	Walkerton	5713
			M	Kincardine	5715
			M	Chesley	5716
			M	Southampton	5717
			M	Lucknow	5718
				Rest of Bruce County	5719
			M	Teeswater	5719
			M	Port Elgin	5719
			M	Wiarton	5719
			M	Mildmay	5719
			M	Tara	5719
			M	Paisley	5719
			M	Hepworth	5719
			M	Lion's Head	5719
572		Owen Sound (Grey County)			
			M	Owen Sound	5723
			M	Meaford	5724
			M	Markdale	5725
			M	Thornbury	5726
			M	Dundalk	5727
			M	Hanover	5728
				Rest of Grey County	5729
			M	Durham	5729
			M	Neustadt	5729
			M	Flesherton	5729
			M	Chatsworth	5729
573		Collingwood (Western part of Simcoe County)			
			M	Collingwood	5733
			M	Stayner	5735
			M	Creemore	5736
				Rest of W. Simcoe County	5739
574		Barrie (Southern part of Simcoe Cty.& Dufferin Cty.)			
			M	Barrie	5743
				Camp Borden	5744
			M	Alliston	5745
			M	Bradford	5746
				Rest of S. Simcoe County	5747
			M	Tottenham	5747
			M	Orangeville	5748
				Rest of Dufferin County	5749
			M	Grand Valley	5749
			M	Shelburne	5749
575		Orillia (Eastern part of Simcoe County)			
			M	Orillia	5753
				Lake Couchiching	5755
			M	Coldwater	5756
				Rest of east Simcoe County	5759
576		Midland (Northern part of Simcoe County)			
			M	Midland	5763
			M	Penetanguishene	5764
				Port McNicoll	5765
				Victoria Harbour	5766
				Rest of North Simcoe County	5769
577		Bracebridge (Muskoka Territorial District)			
			M	Bracebridge	5773
			M	Gravenhurst	5775
			M	Huntsville	5776
			M	Port Carling	5777
			M	Bala	5778
				Rest of Muskoka Terr. District	5779
578		Parry Sound (Parry Sound Territorial District)			
			M	Parry Sound	5783
				Nobel	5784
			M	Kearney	5785
			M	Burk's Falls	5786
			M	Sundridge	5787
			M	Powassan	5788
				Rest of Parry Sound Terr.District	5789
579		North Huron Islands District(Manitoulin T.District)			
			M	Little Current	5794
			M	Gore Bay	5795
				Rest of Manitoulin T.District	5799

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
58		Northeastern Ontario Zone			
580			North Bay (all Nippissing T.D.except Southwestern part)		
			x	North Bay	5803
				Ferris	5804
				Bonfield	5805
				Mattawa	5806
				Timagami	5808
				Rest of Nippissing T.D.excl. Sturgeon Falls Area	5809
581			Sturgeon Falls (Southwestern part of Nippissing T.D.)		
			(x)	Sturgeon Falls	5813
			(x)	Cache Bay	5815
				Rest of Sturgeon Falls Area	5819
582			Sudbury (Sudbury Territorial District)		
				Sudbury	5822
			(x)	Copper Cliff	5823
			(x)	Coniston	5824
				Falconbridge	5825
				Rest of Sudbury Mining Area	5826
				Garson	5826
				Creighton	5826
				Levack	5826
				Espanola	5827
				Chelmsford	5828
				Rest of Sudbury Terr. District	5829
				Capreol	5829
583			Sault Ste.Marie (Algoma Territorial District)		
			x	Sault Ste. Marie	5832
				Steelton	5832
				Michipicoten	5834
				Helen Mine	5834
			(x)	Blind River	5835
			x	Thessalon	5836
				Jamestown	5837
			x	Hilton Beach - Bruce Mines	5838
				Rest of Algoma Territorial District	5839
584			Kirkland Lake (Timiskaming Terr. District)		
				Kirkland Lake	5843
			x	New Liskeard	5845
			x	Haileybury	5846
			x	Cobalt	5847
			x	Englehart	5848
				Rest of Timiskaming Terr. District	5849
585			Timmins (Southern part of Cochrane Terr.District)		
			x	Timmins	5853
				Schumacher	5854
				South Porcupine	5855
			(x)	Iroquois Falls	5856
				Matheson	5857
			x	Cochrane	5858
				Rest of S. Cochrane Terr.District	5859
				Ansonville	5859
586			Kapuskasing (Northern part of Cochrane Territorial District)		
			(x)	Kapuskasing	5863
			(x)	Smooth Rock Falls	5865
			x	Hearst	5867
				Moosonee - Moose Factory	5868
				Rest of N. Cochrane Terr. District	5869
				Abitibi Canyon	5869

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
59		Lakehead - Northwestern Ontario Zone			
590			Fort William(Southwestern part of Thunder Bay T.D.)		
			x	Fort William	5902
				West Fort William	5903
				Kakabeka Falls	5906
				Kaministikwia	5907
				Rest of S.W. Thunder Bay T.D.	5909
591			Port Arthur(Northeastern part of Thunder Bay T.D)		
			x	Port Arthur	5912
				Thunder Bay	5913
				Red Rock	5914
				Nipigon	5915
				North Shore Lake Superior	5916
				Terrace Bay	5916
				Marathon	5916
				Heron Bay	5916
				Long Lac Belt	5917
				Beardmore	5917
			x	Geraldton	5917
				Long Lac	5917
				Rest of N.E. Thunder Bay T.D.	5919
592			Fort Francis (Rainy River T.D.)		
			(x)	Fort Francis	5923
				Rainy River	5925
				Steep Rock Iron Mines	5926
				Atikokan	5927
				Rest of Rainy River T.D.	5929
593			Sioux Lookout (Eastern part of Kenora T.D.)		
			x	Sioux Lookout	5933
				Rest of Eastern Kenora T.D.	5939
594			Kenora (Western part of Kenora T.D.)		
			(x)	Kenora	5943
			(x)	Keewatin	5944
				Minaki	5946
			(x)	Dryden	5948
				Rest of West Kenora T.D.	5949
595			Patricia District (Patricia District)		
				Red Lake	5954
				Pickle Crow	5956
				Rest of Patricia Uplands	5957
				North Eastern Patricia Lowlands	5959

3 digit Code	Province	Zone	Sub-zone		Locality		4 digit Locality Code
6	Province of Manitoba						
60		Winnipeg - Southeastern Manitoba Zone					
600			Winnipeg (CD 5, NE part of 6, 9)				
				☆	Winnipeg (City proper) (CD 6)		6001
				☆	St. Boniface (CD 6)		6002
				(☆)	Transcona (CD 5)		6003
					Rest of Greater Winnipeg Met.Area		6004
						North Kildonan	6004
						East Kildonan	6004
						West Kildonan	6004
						Brooklands	6004
						St. James	6004
						Assiniboia Mun.	6004
						Tuxedo	6004
						Charleswood Mun.	6004
						Fort Garry	6004
						St. Vital	6004
					Rest of N.E. CD 6		6005
						Fort Whyte	6005
					Pine Falls		6006
					Rest of CD 5		6007
				☆		Beausejour	6007
				☆		Lac du Bonnet	6007
				(☆)	Selkirk		6008
					Rest of CD 9		6009
				☆		Stonewall	6009
				☆		Teulon	6009
						Winnipeg Beach	6009
601			Portage la Prairie (NW & S. part of CD 6)				
				☆	Portage la Prairie		6013
				☆	Carman		6015
					Rest of NW & S CD 6		6019
602			Red River Valley District (CD 1 and 2)				
				☆	Morden		6024
				☆	Winkler		6025
				☆	Morris		6026
					Rest of CD 2		6027
				☆		St. Pierre-Jolys	6027
				(☆)		Altona	6027
				☆	Steinbach		6028
					Rest of CD 1		6029
603			Inter-Lake District (CD 12)				
					Gimli		6034
					Rest of CD 12		6039
61		Manitoba Southwestern Plains Zone					
610			Brandon (CD 3, 4, 7, 8, 11)				
				☆	Brandon		6102
					Camp Shilo		6103
					Rest of CD 7		6104
				☆		Wawanesa	6104
					Rivers		6105
					Rest of CD 8		6106
				☆		Virden	6106
					CD 3		6107
				☆		Killarney	6107
				☆		Pilot Mound	6107
					CD 4		6108
						Boissevain	6108
				☆		Melita	6108
					CD 11		6109
				☆		Minnedosa	6109
				☆		Hamiota	6109

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
62		Manitoba Parklands Zone			
620			Dauphin (CD 10, 13, 14, 15)		
			*	Dauphin	6203
				Rest of CD 13	6204
			*	Winnipegosis	6204
			*	Neepawa	6205
				Rest of CD 10	6206
			*	Gilbert Plains	6207
				Rest of CD 14	6208
			*	Grand View	6208
			*	Roblin	6208
				Russell	6208
				CD 15	6209
			*	Swan River	6209
63		Northern Manitoba Zone (CD 16)			
630			The Pas (South Western Section of CD 16)		
			(*)	The Pas	6303
				Rest of SW CD 16	6309
631			Flin Flon (Western Section of CD 16)		
			(*)	Flin Flon (pt) (see also Code 7408)	6313
				Sherridon	6315
				Lynn Lake	6317
				Rest of W. CD 16	6319
632			Lake Winnipeg District(Southeast.Section of CD 16)		
				Norway House	6324
				God's Lake	6326
				Rest of South East CD 16	6329
633			Manitoba North District(North Section of CD 16)		
				Churchill	6334
				Port Nelson	6336
				Rest of North CD 16	6339
7	Province of Saskatchewan				
70		Regina - Southeastern Plains Zone			
700			Regina (CD 6)		
			*	Regina	7001
				Rest of Regina Commuting area	7002
				Regina North	7002
			*	Indian Head	7005
			*	Fort Qu'Appelle	7006
				Rest of CD 6	7009
701			Weyburn (CD 2)		
			*	Weyburn	7013
				Milestone	7015
				Ogema	7016
			*	Radville	7017
				Rest of CD 2	7019
702			Estevan (CD 1)		
			*	Estevan	7023
				Taylorton	7024
				Arcola	7026
			*	Oxbow	7027
				Rest of CD 1	7029
703			Melville District (CD 5)		
			*	Melville	7034
			*	Moosomin	7036
			*	Esterhazy	7037
				Rest of CD 5	7039
71		Saskatchewan Palliser Zone			
710			Moose Jaw (CD 3, 7)		
			*	MooseJaw	7102
				Rest of CD 7	7105
			*	Assiniboia	7106
			*	Gravelbourg	7107
				Willows	7108
				Rest of CD 3	7109
711			Swift Current (CD 4, 8)		
			*	Swift Current	7113
			*	Estoh	7114
				Rest of CD 8	7115
			*	Maple Creek	7116
			*	Shaunavon	7117
				East End	7118
				Rest of CD 4	7119

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
72		Saskatoon - Central Plains Zone			
720			Saskatoon (CD 11, part of CD 12 excl. Battleford)		
				☆ Saskatoon	7201
				Sutherland	7202
				☆ Viscount	7203
				☆ Outlook	7204
				Rest of CD 11	7205
				☆ Biggar	7207
				☆ Rosetown	7208
				Rest of CD 12 excl. Battleford	7209
721			West Central Plains District (CD 13)		
				Kindersley	7214
				Kerrobert	7215
				Macklin	7216
				Wilkie	7217
				Rest of CD 13	7219
73		Saskatchewan Parklands Zone			
730			Yorkton (CD 9, 10)		
				☆ Yorkton	7303
				☆ Canora	7304
				☆ Kamsack	7305
				Rest of CD 9	7306
				☆ Lintlaw	7306
				☆ Sturgis	7306
				Foam Lake	7307
				☆ Wynyard	7308
				Rest of CD 10	7309
731			Melfort Fringe District (CD 14)		
				☆ Melfort	7314
				☆ Tisdale	7315
				☆ Hudson Bay Junction	7316
				☆ Nipawin	7317
				☆ Carrot River	7318
				Rest of CD 14	7319
				☆ Archerwill	7319
				☆ Carragana	7319
				☆ Choiceland	7319
				☆ Porcupine Plain	7319
				☆ Weeke's Village	7319
732			Prince Albert (CD 15)		
				☆ Prince Albert	7323
				☆ Rosthern	7325
				Humboldt	7326
				Duck Lake	7327
				Vonda	7328
				Rest of CD 15	7329
733			North Battleford (CD 16, 17, part of CD 12)		
				☆ North Battleford	7333
				Battleford (Part of CD 12)	7334
				Radisson	7335
				Rest of CD 16	7336
				☆ Big River	7336
				☆ Debden	7336
				☆ Shellbrook	7336
				☆ Lloydminster (part) (also see code 8334)	7337
				☆ Meadow Lake	7338
				Rest of CD 17	7339
74		Northern Saskatchewan Zone			
740			Northern Saskatchewan District (CD 18)		
				Goldfields	7404
				Uranium City	7405
				Beaver Lodge Lake	7406
				Flin Flon Area (part) (see code 6323)	7408
				Rest of CD 18	7409

3 digit Code	Province	Zone	Sub-Zone		Locality	4 digit Locality Code
8	Province of Alberta					
80		Alberta Palliser Zone				
800			Medicine Hat (CD 1, 3)			
				☆	Medicine Hat	8003
				(☆)	Taber	8005
					Rest of CD 1	8006
				(☆)	Redcliffe	8007
					Brooks	8008
					Rest of CD 3	8009
801			Northern Palliser District (CD 5)			
				☆	Hanna	8014
					Rest of CD 5	8019
81		Crownest Zone				
810			Lethbridge (Eastern part of CD 2)			
				☆	Lethbridge	8102
					Other Lethbridge Coal areas	8103
				☆	Coaldale	8103
					Diamond City	8103
					Southern Sugarbeet Area	8104
				(☆)	Raymond	8104
				☆	McGrath	8104
				☆	Cardston	8105
				☆	Claresholm	8106
				☆	McLeod	8107
				☆	Pincher Creek	8108
					Rest of East CD 2	8109
811			Blairmore (Western part of CD 2)			
				☆	Blairmore	8113
					Coleman	8114
					Hillcrest Mines	8115
					Bellevue	8116
					Burmis	8117
					Sentinel	8118
					Rest of West CD 2	8119
82		Calgary - Foothills Zone				
820			Calgary (Western part of CD 6)			
				☆	Calgary	8201
					Rest of Greater Calgary area	8202
					Ogden	8202
				☆	Strathmore	8203
					Jumping Pound	8204
				☆	Cochrane	8204
					Exshaw	8205
				☆	Olds	8206
				☆	Didsbury	8207
					Rest of West CD 6	8209
821			Drumheller (Eastern part of CD 6)			
				☆	Drumheller	8213
					Rosedale	8214
				☆	Three Hills	8215
					Trochu	8216
					Carbon	8217
					Nacmine	8218
					Rest of East CD 6	8219
822			High River District (CD 4)			
				☆	High River	8224
				☆	Nanton	8225
					Turner Valley	8226
					Picture Butte	8227
				☆	Vulcan	8228
					Rest of CD 4	8229
83		Edmonton - Parklands Zone				
830			Edmonton (CD 11)			
				☆	Edmonton (City proper)	8301
					Rest of Greater Edmonton Area	8302
					Beverley	8302
					St. Albert	8305
					Namao	8306
					Fort Saskatchewan	8307
				☆	Leduc District	8308
					Rest of CD 11	8309
				☆	Stony Plain	8309
				☆	Onoway	8309
				☆	Tofield	8309

3 digit Code	Province	Zone	Sub-Zone		Locality		4 digit Locality Code
831			Red Deer (CD 8)				
				*	Red Deer		8313
					Penhold		8314
				*	Wetaskiwin		8315
				*	Camrose		8316
				*	Ponoka		8317
				*	Lacombe		8318
					Rest of CD 8		8319
				*		Innisfail	8319
				*		Stettler	8319
				*		Bashaw	8319
832			Alberta East Central Prairie District (CD 7)				
				*	Wainwright		8324
				*	Castor		8325
				*	Coronation		8326
					Hardisty		8327
				*	Viking		8328
					Rest of CD 7		8329
				*		Sedgewick	8329
833			Alberta Parklands District (CD 10, 13, 14)				
				(*)	Lloydminster(part)(see code 7337)		8334
				*	Vegreville		8335
					Rest of CD 10		8336
				*		Vermilion	8336
				*		Andrew	8336
				*		Holden	8336
				*		Mannville	8336
					CD 13		8337
				*		Bonnyville	8337
				*		St. Paul de Metis	8337
				*		Vilna	8337
					Redwater Oil District		8338
					Rest of CD 14		8339
				*		Athabaska	8339
				*		Barrhead	8339
				*		Westlock	8339
				*		Smoky Lake	8339
				*		Lac La Biche	8339
84		West Central Alberta Zone					
840			Red Deer Line District (CD 9)				
				*	Rocky Mountain House		8404
				*	Sylvan Lake		8405
				*	Rimbey		8406
				*	Bentley		8407
				*	Eckville		8408
					Rest of CD 9		8409
841			Edson (CD 12)				
				*	Edson		8413
					Jasper		8414
					Cadomin		8416
				*	Wildwood		8417
					Yates		8418
					Rest of CD 12		8419
				*		Meyerthorpe	8419
						Whitecourt	8419
85		Peace River Zone					
850			Peace River District (CD 15, 16)				
					High Prairie		8504
				*	Peace River		8505
					Rest of CD 15		8506
						McLennan	8506
				*	Grande Prairie		8507
				*	Grimshaw		8508
					Rest of CD 16		8509
				*		Rycroft	8509
				*		Sexsmith	8509
				*		Spirit River	8509
				*		Wembley	8509
86		Northern Alberta Zone					
860			Northern Alberta District (CD 17)				
					Fort McMurray		8604
					Waterways		8605
					Fort Chipewyan		8607
					Rest of CD 17		8609

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
9	Province of British Columbia				
90		East Kootenay Zone			
900			Cranbrook (CD 1)		
				* Cranbrook	9003
				Rest of CD 1b	9004
				* Kimberley	9004
				* Fernie	9005
				Rest of CD 1c	9006
				Chapman Camp	9006
				Invermere - Windermere	9007
				Golden	9008
				Rest of CD 1a	9009
				Field	9009
91		West Kootenay Zone			
910			Trail (CD 2 b)		
				* Trail	9102
				Tadanac	9103
				* Rossland	9104
				* Salmo	9105
				* Castlegar	9106
				Nakusp	9107
				Rest of CD 2b	9109
911			Nelson (CD 2 c)		
				* Nelson	9113
				New Denver	9114
				Slocan	9115
				Kaslo	9116
				* Creston	9117
				Rest of CD 2c	9119
912			Revelstoke District (CD 2 a)		
				* Revelstoke	9124
				Rest of CD 2a	9129
92		Okanagan Zone			
920			Vernon (Northern part of CD 3 a)		
				* Vernon	9203
				* Armstrong	9205
				* Enderby	9207
				Rest of North CD 3a	9209
921			Kelowna (Southern part of CD 3a excl.S.tip)		
				* Kelowna	9213
				Peachland	9217
				Rest of CD 3 excl. S. tip	9219
922			Penticton(Eastern part of CD 3b & South tip of CD 3a)		
				* Penticton	9223
				Summerland (3a)	9224
				Naramata (3a)	9225
				* Oliver	9227
				* Osoyoos	9228
				Rest of Eastern CD 3b	9229
923			Grand Forks District (CD 3 c)		
				* Grand Forks	9234
				* Greenwood	9236
				Beaverdell	9238
				Rest of CD 3c	9239
924			Princeton (Western part of CD 3 b)		
				Princeton	9243
				Allenby	9244
				Copper Mountain	9245
				Keremeos	9247
				Hedley	9248
				Rest of Western CD 3b	9249

3 digit Code	Province	Zone	Sub-zone	Locality	4 digit Locality Code
93		South Central B.C. Zone			
930			Kamloops (CD 6c, 6a)		
			☆	Kamloops	9303
				Ashcroft	9304
				Lytton	9305
			☆	Merritt	9306
				Rest of CD 6c	9307
				CD 6a	9309
931			Salmon Arm District (CD 6b)		
			☆	Salmon Arm	9314
				Sicamous	9315
				Shuswap	9316
				Rest of CD 6b	9319
932			Southern PGE District (CD 6 d, e, f)		
			☆	Lillooet	9324
				Bralorne	9325
				Rest of CD 6f	9326
				Bridge River	9326
				Clinton	9327
				Rest of CD 6e	9328
				CD 6d	9329
94		Vancouver-Lower Fraser Zone			
940			Vancouver (CD 4 b)		
			☆	Vancouver	9401
				Rest of Greater Vancouver (excl. New Westminster)	9402
			☆	North Vancouver	9402
				North Vancouver Dist.	9402
				West Vancouver Dist.	9402
				Burnaby District	9402
				University Endowment Area	9402
				Lulu Island-Sea Island(Richmond)area	9403
				Steveston	9403
				Eburne	9403
				BritanniaBeach	9404
			☆	Squamish	9405
				Port Mellon	9406
				Woodfibre	9407
				Sechelt	9408
				Rest of CD 4b	9409
				Gibson's Landing	9409
941			New Westminster (Western part of CD 4 a)		
			☆	New Westminster	9412
				Fraser Mills	9413
			(☆)	Port Moody	9414
				Ioco	9415
			☆	Port Coquitlam	9416
				Haney	9417
				Hammond	9418
				Rest of West CD 4a	9419
				Delta	9419
				Ladner	9419
				Langley	9419
				Surrey	9419
942			Mission (Central part of CD 4 a)		
			☆	Mission City	9423
			☆	Abbotsford	9425
				Rest of Central CD 4a	9429
943			Chilliwack (Eastern part of CD 4a)		
			☆	Chilliwack	9433
				Sardis	9434
				Agassiz	9435
				Harrison Hot Springs	9436
				Harrison Mills	9437
			☆	Hope	9438
				Rest of Eastern CD 4a	9439

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
95		Victoria - Vancouver Island Zone			
950			Victoria (Southern part of CD 5a, and CD 5b)		
				★ Victoria	9501
				Esquimalt	9502
				Oak Bay	9503
				James Island (5b)	9504
				Saanich	9505
				Sydney	9506
				Sooke	9507
				Port Renfrew	9508
				Rest of South CD 5a and 5b	9509
				Bamberton	9509
951			Duncan (Central part of CD 5 a)		
				★ Duncan	9513
				(★) Lake Cowichan	9515
				Chemainus	9517
				Rest of central CD 5a	9519
952			Nanaimo (Northern part of CD 5 a and Eastern part of CD 5 c)		
				★ Nanaimo	9523
				Gabriola Island	9524
				★ Ladysmith	9525
				Parksville	9526
				Qualicum Beach	9527
				Texada Island	9528
				Rest of North CD 5a and East CD 5c	9529
953			Port Alberni (CD 5 e and Western part of CD 5 c)		
				★ Port Alberni	9533
				★ Alberni	9534
				Ucluelet	9536
				Tofino	9537
				Clayoquot	9538
				Rest of CD 5 e and West CD 5 c	9539
954			Courtenay (CD 5 d)		
				★ Courtenay	9543
				Comox	9544
				★ Cumberland	9545
				Fanny Bay	9546
				★ Campbell River	9547
				Rest of CD 5d	9549
955			Northern Vancouver Island District (CD 5f)		
				Alert Bay	9554
				Port Hardy	9555
				Quatsino	9556
				Coal Harbour	9557
				Port Alice	9558
				Rest of Area CD 5f	9559
				Kuyoquot	9559
				Zeballos	9559
				Englewood	9559

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
96		Northwestern B.C. Zone			
960			Central Mainland Coast District (CD 7)		
				Powell River area	9604
				Powell River	9604
			*	Westview	9604
				Cranberry Lake	9604
				Wildwood	9604
				Rest of CD 7c	9605
				CD 7b	9606
				Knight Inlet	9606
				Ocean Falls	9607
				Fishing Centres	9608
				Namu	9608
				Rivers Inlet	9608
				Rest of CD 7a	9609
				Bella Bella	9609
				Bella Coola	9609
961			Prince Rupert (CD 9c, d, e)		
			*	Prince Rupert	9612
				Port Edward	9613
				Skeena City	9614
				Rest of CD 9d	9615
			*	Terrace	9615
				Kitimat	9616
				Rest of CD 9e	9617
				Kemano	9617
				Butedale	9617
				Klemtu	9617
				Stewart	9618
				Rest of CD 9c	9619
				Alice Arm	9619
962			Queen Charlotte Islands District (CD 9f)		
				Massett	9624
				Port Clements	9625
				Skidegate	9626
				Queen Charlotte City	9627
				Sandspit	9628
				Rest of CD 9f	9629
963			Northern B.C. District (CD 9a, b)		
				Atlin	9634
				Rest of CD 9a	9636
				Telegraph Creek	9637
				Rest of CD 9b	9639
97		Nechako Plateau Zone			
970			Prince George (CD 8a, b, e, f, g)		
			*	Prince George	9702
				Rest of CD 8a	9704
				CD 8b	9705
			*	McBride	9705
				CD 8f	9706
			*	Vanderhoof	9706
			*	Burns Lake	9706
				CD 8e	9708
			*	Smithers	9708
				Hazelton	9708
				CD 8g	9709
971			Northern P.G.E. District (CD 8c, d)		
			*	Quesnel	9714
			*	William's Lake	9716
				Rest of CD 8d	9718
				CD 8c	9719

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British Columbia(Cont'd)
Yukon
Northwest Territories

3 digit Code	Province	Zone	Sub-Zone	Locality	4 digit Locality Code
98		Northeastern B.C. Zone			
980			Dawson Creek (CD 10)		
				* Dawson Creek	9803
				* Pouce Coupe	9804
				Rest of CD 10d	9805
				Hudson Hope	9805
				* Fort St. John	9806
				Rest of CD 10c	9807
				CD 10b	9808
				Finlay Forks	9808
				Manson Creek	9808
				CD 10a	9809
				Fort Nelson	9809
11	Yukon Territory				
110			Whitehorse (Yukon Territory)		
				* Whitehorse	1103
				Mayo	1105
				* Dawson City	1107
				Rest of Yukon	1109
12	Northwest Territories				
120			Yellowknife (South half of Mackenzie District)		
				Yellowknife	1203
				Rest of South Mackenzie District	1209
121			Fort Norman (Northwest part of Mackenzie District)		
				Fort Norman	1213
				Norman Wells	1214
				Port Radium	1216
				Rest of N.W. Mackenzie District	1219
122			Western Arctic Mainland district (Northeast Mackenzie District)		
				Coppermine	1225
				Bathurst Inlet	1227
123			Eastern Arctic Mainland (Keewatin District)		
				Chesterfield	1235
124			Eastern Arctic Islands(S.E. Franklin District)		
				Frobisher Bay	1245
125			Western Arctic Islands(S.W.Franklin District)		
				Cambridge Bay	1255
126			Far Northern Arctic Islands (N. Franklin District)		

Ottawa,
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Economics and Statistics Branch
Department of Defence Production.

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